DIET DOES NY



by the same author



BETTER EYES WITHOUT GLASSES
EAT AND GROW BEAUTIFUL
LOOK YOUNGER, LIVE LONGER

INCORPORATING THE GAYELORD HAUSER COOK-BOOK

by

GAYELORD HAUSER

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Preface

For twenty years I have pioneered in the field of scientific cating. Pioneering is never easy, but it is worth it when one sees what research and teaching can accomplish. There is a bright and personally satisfying side of the picture. Now throughout the breadth of our hospitable country, thousands upon thousands of my students know how to eat for radiant health. This number is ever increasing. They are putting into daily use natural principles, of living—principles which will do much toward winning and retaining exuberant health, good looks, and a long, joyous life.

These loyal students are enjoying meals which are none the less delicious for all their being well balanced. And the foods which they choose—because of the way they prepare them—please the eye, a requisite to good digestion as the gourmet proclaimed long ago. Farther on in this book there is a section given over to routine and to special recipes. I especially recommend it to those food connoisseurs who mistakenly fancy that one cannot eat for health and still be a gourmet. I trust you will

agree that the two are not incompatible.

An army, so they say, travels on its stomach. But why that limitation: The world of man travels on its stomach. It is the purpose of this book to make your path a more pleasant one.

GAYELORD HAUSER

Beverly Hills, Calif.

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I. Diet Does It

A boy lay dying in the Evangelical Deaconess Hospital in Chicago. Despite many operations, his tubercular hip refused to heal. One of Chicago's best surgeons told the nuise, 'Send this boy home. Just make him as comfortable as possible.

There's nothing more that we can do.'

So the unhappy and discouraged boy was sent back to Europe, to die in the screnity of the Swiss mountains. There, high up among the snow-capped peaks, a miracle happened. One morning as the boy was cating his usual breakfast, an old man who was visiting his family told him, 'If you keep on cating dead foods, you certainly will die. Only living foods can make a living body.'

'What are living foods?' asked the boy.

The man described them vividly. 'Fresh, young growing things, especially the green and yellow vegetables saturated with the earthy elements; lemons, oranges and other tree fruits, full of sunshine and living waters.' He knew nothing about vitamins, minerals and the thirty other nutrients discovered since. But the boy started to cat enormous amounts of the designated foods, and wonder of wonders, the hip which had defied all sorts of treatment now slowly but surely healed. Through this amazing recovery, I discovered for the first time what diet can do . . . for I was that boy. Only those who have had a similar experience can know the joy of such a victory. So eager was I to know more/about the subject, that I decided to make it my life's study.

My path was completely uncharted. There were no schools of nutrition then. Immediately after World War I, I found myself in Vienna, ancient city of learning. Here a few clinics were beginning to introduce diet cures, and the well-known Dr. Pirquet was teaching the 'Mem Theory,' later known as the 'Caloric Theory.' I absorbed this knowledge eagerly, as it was

especially helpful for those wishing to rid themselves of excess weight. After that I again returned to Switzerland, to the city of Zurich, where Dr. Bircher-Benner and his two sons, with their ideas on sunlight foods, were teaching people how to eat their way back to health.

Beautiful Dresden, in Saxony, was another goal in my food pilgrimage. There I had the good fortune to meet one of Europe's foremost food chemists, Ragnar Berg. He was one of the pioneers in analysing foods and in ascertaining their vitamin and mineral content. With his help, I was able to write the first Dictionary of Foods, which to this day is used in many of the more advanced schools.

In Copenhagen, Denmark, I went to visit Dr. Mikkel Hindhede, who applied scientific cating not only to individuals, but to the masses, and who thus really became the world's food administrator. It is now a matter of record that people died by the thousands when the dreaded influenza epidemic raged throughout Europe. Yet little Denmark emerged almost unscathed, and even the 'diehards' had to admit the dynamic potency of diet in building up greater resistance. Discussing the matter with this modest scientist, one could not help being impressed by how consistently he practised what he preached. 'Undereat rather than overcat' was his favourite axiom.

After interviewing the leaders of the different schools of dietetics in Europe and England, I set sail for America again, inspired and convinced that the solution of many of the world's problems depended upon a new intelligent system of eating. I knew that I was on the right path!

I started a school of dietetics in Chicago and it became an overnight success. The lines of so-called hopeless people stretched out longer and longer. My staff and I worked day and night with them. The dejected faces of those poor men and women became radiant after they took a new lease on life, simply because they were taught to eat sensibly.

Eventually, so many people came to us that my large staff could no longer handle them. It was then that I decided 'an ounce of prevention is worth a pound of cure.' I determined to

prevent the tremendous human waste in sufferings and breakdowns. I began a lecture career and gave courses in nutrition in the principal cities of our great country. All those who were willing to listen were taught that the body is what we make it, by the foods we eat. Now thousands who have been able to help themselves will gladly testify that intelligent eating has helped them to live healthier and richer lives.

A few years ago, as the science of nutrition became even better known, I started writing a daily column called 'Your Food and You.' The ten thousand letters received weekly made it evident to King Features, one of America's largest syndicates, that the public was ready and willing to choose food for better health and vitality.

Naturally there were those who scoffed and made fun, who called us 'diet cranks.' These criticisms usually came from weakwilled people who lived to eat and who were not interested in our 'new-fangled ideas.' However, truth has a way of breaking through all man-made obstacles. From the ends of the earth came brilliant reports of progress in this field.

Major-General Sir Robert McCarrison, from India, reports that mice fed according to the old-fashioned American standards developed cataracts, tuberculosis, and a weak nervous system. Professor H. K. Muller, of the University of Basel, Switzerland, demonstrates that a deficient diet can cause cataracts of the eyes. Dr. Alexis Carrell, from France, sends the message that our life expectancy can be greatly enhanced by the

intelligent combination of foods.

And here at home, our own tireless scientists are making brilliant contributions. Dr. Ira A. Mansville, of the University of Oregon, announces that ulcers of the stomach can result from a lack of vitamin A foods, and Professor G. Cullen, of the University of Illinois, states that correct diet is absolutely essential, not only for our physical but also for mental health. Many other experiments, notably those of Dr. E. V. McCollum of Johns Hopkins University and those of Dr. H. C. Sherman of Columbia University, give rise to the hope that if a Fountain of Youth is ever to be discovered, it will be in the nutrition laboratory.

Its outstanding record in reducing suffering and premature death proves conclusively that 'diet does it.' What is yet to be accomplished, however, dwarfs everything so far achieved. Today my ideas, often rejected twenty years ago, are accepted as a matter of course. Even the government prints booklets on balanced nutrition, and proclaims eating a balanced diet to be

a patriotic duty.

In 1937 I felt that my work was well enough known in the United States, and I decided to go to England again—this time not to study, but to lecture and write. I shall never forget my first talk there. I sat at the speakers' table, next to that grand old man, Sir William Arbuthnot Lane, whose organization, the 'New Health Society', presented me at a meeting for physicians only. Since my name was associated with Hollywood, I began the lecture in an atmosphere of scepticism. These eminent doctors, however, soon discovered that I was neither a vegetarian nor a raw food faddist. I insisted then, as I do now, that all good food is given for the enjoyment of man and that many highly restricted or 'one-sided' regimes are neither normal nor healthy. I was pleased at the round of applause which was tendered me by this distinguished group of medical men at the conclusion of my lecture.

Suddenly I found myself embarked on a new career in England. The very next day my articles appeared in one of London's largest newspapers, the *Daily Mail*. My later lectures and courses in London were an unforgettable experience. Good, simple people, as well as lords and ladies, listened with eagerness, as if they knew of the tragedy that was to cast its shadow over them. How happy I now am that I taught my English students about vitamin A for blackout blindness—and about carrots as a good, cheap source for that vitamin. I also created a new interest in the soya bean, which has since become one of the newer protein foods in the English dietary. My Alkaline Vegetable Broth has become another favourite.

Adele Astair, who at that time was Lady Charles Cavendish, and whose beautiful mother has long been a friend and student of mine, was most helpful in bringing my ideas before a wider circle. I recall with pleasure a dinner at the home

of the Duke and Duchess of Kent—delicious broiled fish, green beans in the French manner, green salad, fruit compote, and a demitasse; no stuffy starches, but a simple, sound meal.

From then on my path was easy, not only in England, but on the Continent. In France people wrote glowing reports about the 'Régime Hauser.' Even chic Parisiennes, who were very difficult to convince, started to eat in the modern manner. Late in the fall of 1938, Paris was still oblivious to the tragic future. The lobbics of her great hotels were filled with smart and sophisticated internationalists. In luxurious villas on the edge of the Bois de Boulogne, in Neuilly, and in Versailles, lived the maharajahs of India, the millionaires of America, and the titled Englishmen, Hungarians, and Russians.

In this international setting, fabulous Lady Mendl arranged for me to address a small and distinguished group and I was surprised and pleased to discover as my guests twelve of the world's best-known and most distinguished women among whom were the Duchess of Windsor, whose charm and gracious hospitality are known to everyone; Mrs. Harrison Williams, famed as the world's best-dressed woman; Princess Kapurthala, exquisite personification of a fairy-tale princess; Lady Charles Cavendish, whose castle in Ireland was renowned for the most excellent food; and others equally fascinating, but less well-known in America.

Lady Mendl arranged a fantastic table for me, with a marvellous centrepiece made from fresh vegetables. On the table was the only electrical vegetable juice extractor in France. The group listened attentively and were enthusiastic about the possibilities of diet in relation to health and beauty. I have seldom seen a more completely absorbed group, and I remained for several hours to answer all their questions. When I left, I felt certain that I had acquired twelve disciples, who could do much in introducing scientific eating to their respective countries.

In the years since then I have had the pleasure of entertaining many of my friends from all over the world at my home in Beverly Hills. Invariably they are surprised to find that healthful food can be so luscious. Yet surely broiled young meat, tender and utterly delicious, cannot be mentioned in the

same breath with the greasy fried dishes so often served. Certainly brightly coloured fresh vegetables, cooked in their own steamed juices, have a taste far exceeding the pale done-to-death-water-poured-off varieties. Salad bowls of succulent, tender greens from the fields, prepared in the French manner, bear no resemblance to the vinegar-soaked excuses served as salads in the majority of restaurants. Bread made from freshly ground whole wheat has a nuttiness and flavour totally lacking in ordinary white bread. I believe 'there must be pleasure in eating.' I would like to have my creed become your creed!



W omen first developed a 'food sense.' They have to raise the children and solve the problems of health. Also they gain weight more easily than men do. One of the first food facts which became generally known was that by eating fresh salads, bright-coloured fruits and vegetables, buttermilk, and tender broiled meats, the weight became normal. People felt and looked better. Nutritionally correct reducing meant not only losing weight but gaining health. While women were becoming wise to the ways of health and beauty, men often overemphasized as a hardship the giving up of devitalized starches and sugars, and many sat, newspaper propped before them, shovelling food into their mouths without thought of their health in the future.

Gradually men too began to see the wisdom of correct cating. The alert men, the advanced thinkers, the doers, the successful and dynamic men everywhere, are beginning to treat their bodies as carefully as they do their cars. Eddie Rickenbacker, the man of seven lives, once publicly testified that both he and his wife owed their unusual vitality to the regime outlined in this book. Henry Ford, a great student of nutrition, stressed the value of intelligent eating, and realized that his food has played an important role in his accomplishments. Many great industrialists, wizards at production and distribution, realize that good eating is good business; that, aside from health and enjoyment, there is a direct dollars and cents connection between proper diet and increased profits. Not only business men but indeed all men and women will someday realize the need to be vitally and glowingly alive; and that a constructive food programme will increase their vitality, enhance their looks, and add years of health to their lives.

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Stop for a moment and figure the dollars and cents value of your own health and that of your family. Have you been needlessly ill during the past five years; faced with medical and hospital bills which might have been avoided? Perhaps if you had been less fatigued, more alert, and had the surplus energy of a person abundantly alive, a promotion would have come your way. How much do you pay for dental bills throughout the year? Most dental problems can be prevented by correct nutrition. Even if you were not ill enough to consult a physician, the days you were below par enough to have extra help in the house or garden had dollars and cents cost. Health has a definite dollars and cents value for every person, and usually it is far greater than is realized.

If you analyse the dict of anyone around you whose know-ledge of nutrition is limited, you are appalled at the number of nutrients essential to health which are either undersupplied or almost entirely lacking. At first it is even surprising that such people can be healthy as they appear, but careful scrutiny brings many deviations from health: decaying, dead, or missing teeth; pyorrhæa; poor muscle tone causing sagging posture; pale colour of cheeks, ears, lips, and gum tissues; lack of mental and nervous stability; poor digestion and faulty climination, bald heads, and premature ageing. One might continue ad infinitum.

The majority of people who claim to be in good health have not the slightest conception of the meaning of health. In fact most people have pitifully low standards of health. I recall a young woman who recently boasted to me that she was always healthy, always well. Her posture was poor. She was very susceptible to colds. Her colour was pale. Her hair resembled that of an animal on a deficient diet. She lacked pep and drive, and although she worked hard, there was no buoyant urge to activity or spontaneous energy. Fatigue showed on her face. I wondered as I looked at her if, instead of never being sick, she were ever well. Millions of people have the same attitude toward health as she.

Why? Old points of view have not been replaced by those compatible with modern science. It is more sensible to start

immediately and vigorously to correct abnormalities than to refuse to face them and to allow them to develop into more serious conditions. Formerly no one had the knowledge of how they could be corrected. Now that knowledge is available to all who have the initiative to acquire it.

Since what you eat determines your health and well-being, let us stop to consider what kind of health you want during the remainder of your life. Do you want to walk with a spring in your step, striding into life and its activities with cagerness? Or will you hide in the corner, afraid and cringing? Will you talk with happiness and optimism, reflecting a healthy, courageous mind, talk followed through with actions showing integrity? Or will your talk be bitter, sarcastic, pessimistic, mirroring unhealthiness of both body and mind?

We might say that what you eat determines what you are and what you will be in the future. In that case, it is well to stop and consider what you actually want to be. Do you want to be dynamic, a person of poise and action? That you cannot be without eating correctly. Do you want to think clearly, with your mind keen and alert, with soundness of judgment and foresight? Do you want the health of your skin, eyes, hair, and teeth to increase as years go by? Do you want always that boundless energy which carries you into action and over difficulties? Do you want to stay unaware of the functioning of your heart, digestive tract, and other internal organs because they work too perfectly to call attention to themselves? Do you want your nerves to be relaxed, dropping to sleep the moment you touch the bed? You determine all of these things by the way you eat.

Plan both your present and your future health. Plan it carefully with no details omitted. Think of the money value of health, the beauty value, the value in boundless energy. When you decide what kind of health you want, then work toward it day after day; know that such health can be attained by eating delightful and delicious foods.

If your food tastes have been perverted by long use of greasy meats, overcooked and water-soaked vegetables, devitalized white breads, soft drinks, and oversweet desserts, set out to

train it. Just as mind and muscle can be trained, so can appetite. Train it as you would a spoiled child, with patience but persistence, and know that in the end your new habits will be a

delight to you throughout your entire life.

There are hundreds of thousands of people in America who have never achieved vital health because of food dislikes. Thousands are nervous and irritable because they have never learned to enjoy the taste for foods rich in calcium, and as a result are woefully deficient. Thousands upon thousands have poor health simply because they enjoy the taste of refined breads and cereals more than the whole grain products. Yet surely any normal person would agree that health is more important than the taste of food.

Nothing has been so overestimated and needlessly catered for as food dislikes. Anyone learns to enjoy foods simply by eating them. The person who says, 'I won't cat that. I don't like it,' reverts to infancy to the extent that he figuratively climbs into a high chair and dons a bib. That same individual can undoubtedly recall many foods which he now enjoys but which he formerly disliked. He learned to enjoy these foods by eating them. In the same way he can learn to enjoy any health-building food. For this reason food dislikes are relatively unimportant and should not be taken seriously. They change too

easily to be taken seriously.

If the food does not build health, the dislike is of no importance. But any food which is health building should be enjoyed. Many dislikes are caused by such poor food preparation that the food is left both tasteless and unattractive, as are vegetables when boiled in water. Americans cat with their eyes. Hence foods should be prepared palatably, their natural colour and beauty retained. Serve an unpopular food when the family is likely to be especially hungry, as after a day at the beach or in the mountains, and prepare a rather small amount of it. Never expect a person to eat more than one or two spoonfuls of a new food the first time it is served. To force a large serving of a strange food on an individual usually does cause him to dislike it. If your first attempt fails, try again and again. The food dislike is usually only imaginary, and when the food is once

actually eaten the person who thought he disliked it discovers that he enjoys it. Remember that your willingness or unwillingness to cultivate good food habits determines the degree of health you shall enjoy.

The argument is frequently put forth and generally believed that people become tired of eating the same foods day after day. On the contrary, one's delight in a certain food increases the more frequently it is served. If such an argument were true, bread would not be as popular as it is; butter would not be served at each meal. Becoming tired of a food, provided it is attractively prepared, simply means one has not eaten it frequently enough to have reached the maximum enjoyment of it.

The statement is frequently made that a variety of foods is desirable. One particular vegetable, fruit, or whole grain may offer more of some nutrient than does another fruit, vegetable, or grain. Some element missing in one food may be generously supplied in another. However, the statement that variety is desirable is true only if the variety is entirely of health-building foods. If, in order to achieve variety, white bread is offered rather than whole grain or cake is served for dessert rather than fruit, health-building qualities are lost; a valuable food has been replaced by one that cannot build health, and the loss is greater than the gain. It is much better to forget about variety or to achieve it merely by serving a different whole grain bread or another fruit. In short, if in order to achieve variety, health is sacrificed, then variety should be ignored. The statement should always be qualified to read, 'Get as wide a variety of foods as possible provided all foods making up that variety can build health.'

Americans have also overemphasized variety needed at one meal. Too many foods are served, which often tempts a person to overcat. Such a practice causes the meals to be too expensive, too difficult to prepare, and leaves the kitchen piled with dirty dishes. Get your variety of health-building foods in the course of a day or week and serve simple, easily and quickly prepared meals.

The average person fails to recognize radiant health. He often considers himself well when he actually is not. The person

ignorant of the first symptoms indicating that his health is below par will make no effort to correct them. Minor abnormalities that could easily be corrected go unrecognized until they lead to serious illness. This carelessness in striving for vital health is actually a major cause of disease. Every ill person was well before he became ill; had he recognized the first subtle deviations from health and immediately corrected them, he could have prevented serious illness. It is of tremendous importance that you recognize radiant health in order that you can strive to attain it. It is of equal importance for you to recognize the first deviations from health so that you can correct them before illness results.

The registration for the draft in World War II showed that there were 22,000,000 men in America between the ages of eighteen and forty-five. Of this group, 11,000,000, or 50 per cent, were found to be physically unfit for the army, even when low health standards were used. The number of physically unfit had tremendously increased over that of World War I, and these defects were largely due to malnutrition. Nervous debility had doubled. There was four times as much tooth decay as in 1917 and, in order to have a large army, men without teeth had to be taken. As much as 33 per cent of the men rejected suffered from neuroses, or lack of mental health. This is the condition of our young men at the height of their physical development. How many healthy people do you think could be found if 22,000,000 between the ages of forty-five and sixtyfive were given physical examinations? The findings would undoubtedly be so appalling and disgraceful that we would probably not be fact-facers enough to accept them. The myth that we are the healthiest nation cannot be too quickly dispelled, for the sooner the truth be accepted the sooner we shall start remedying the situation.

Paradoxically enough, this widespread degeneration in physical and mental health has been produced at the very time when more facts concerning the building of health are known than ever before in history. We now know what elements are essential to health and the approximate amounts of each needed; what foods are the best sources of each vitamin and

mineral; how fatigue can be prevented and efficiency maintained; how disease can be warded off; in short, how you can build a perfect body which houses a keen and alert mind.

Thoughtful men and women, far-sighted mothers, and discriminating hostesses in increasing numbers are alert to try out for themselves dietetic routines approved by food science. This constructive outlook toward eating is a powerful aid in our nation's struggle against disease. There is hope now and promise and cause for joy in this attempt to correct and prevent many bodily disorders.

Research is being carried out in hundreds of laboratories throughout the world. Scientists in food planning, however, are not restricted to the sacred precincts of a recognized laboratory. That unsung laboratory, the kitchen, is now in many homes directly in charge of what may well be termed a laboratory technician, the informed homemaker. She knows that the well-being of her family is largely in her hands. Her menus may make or mar father's ambition as a provider. They may greatly influence Johnny's chances for playing centre-forward in the school team. What she selects for her market basket can vitally affect both the physiological and psychological health of her family as a unit and as individuals. Her happiness in marriage may be in direct ratio to what she knows about foods and how she employs that knowledge.

Her skill in preparing the good raw materials in her pantry may depend upon her interest and study of scientific food principles. While she may instinctively 'short-cook' certain foods, she is a better-equipped guardian of the family destiny if she knows why she does it; so as to preserve the greater part of

their precious vitamins and minerals.

It is the privilege and duty of every homemaker to build and maintain the health of her family. In the past, she has failed appallingly. In the future, she can succeed magnificently provided she has at her finger tips knowledge which is so much a part of herself that she automatically applies it day after day. These facts I have tried to give you in this book.

HOW TO PLAN THE PERFECT DIET

In order to build health, your choice of foods should be based on the modern science of nutrition. Normal nutrition for you is a scientifically worked out regime, supplying ideal amounts of proteins, carbohydrates, fats, minerals, vitamins, and liquids. Such a regime promotes physical well-being and mental alertness, greater beauty and a longer life. Yes, your choice of foods can even do much to prevent premature old age's changes in both appearance and body functions.

✓PROTEINS COME FIRST

Of first importance in planning your daily regime are the protein foods. In fact, the word protein comes from a Greek word meaning 'To come first.' Proteins are the builders of the body, of which all body tissues are made. Your skin, hair, muscles, and nails are made of proteins as are your brain, heart, lungs, and all other internal organs. These tissues can be built soundly and repaired perfectly only when the building blocks of which they are made are supplied generously in your daily meals.

Protein foods are of two kinds, spoken of as first-class and second-class proteins. The first-class proteins keep the body in excellent repair. Such proteins are found in egg yolk, cheese, milk, yoghourt, and glandular meats such as liver, kidney, brain, and sweetbreads. The muscle meats which we cat as roasts, chops, and steaks also are first-class proteins but are less valuable to the body than glandular meats. A few vegetable foods contain first-class protein; soya beans, nuts, wheat, especially wheat germ, and cotton-seed flour. The second-class proteins are found in dry beans such as navy beans, lima beans,

kidney beans, and Mexican beans, lentils, dry peas, corn, rye, gelatine, and egg white. These second-class proteins cannot support growth alone, but if they are combined with first-class proteins, they offer a valuable contribution to health.

If you prefer not to eat meat, it is possible to supply the body with sufficient protein by eating first-class protein of vegetable origin, especially walnuts, soya beans, almonds, peanuts, and cotton-seed flour. If generous quantities of eggs and fermented milk are added to these proteins, a balanced diet can be provided. Strict vegetarians, unless trained in nutrition, are likely to suffer from anæmia, low blood pressure, and excessive fatigue.

PROTEINS KEEP YOUR BODY FIRM

When the protein foods are under-supplied in the diet of an infant or growing child, development slows down or even stops. The body tissues of either the adult or the child fail to be repaired normally when protein is inadequate. Since all muscles are made of protein, a partial lack of this valuable substance allows the muscles to become soft and stringy, resulting in flabbiness and poor posture. Certainly no man has ever been attractive whose abdomen or whose shoulders are rounded; no woman, even clad in haute-couture clothes, can be beautiful if the muscles of her breasts and stomach sag. It is the elastic pull of well-fed muscles which keeps the contours of the face firm and beautiful, expressing vivacity and youth. The pull of healthy muscles perfectly repaired puts spring into your step and gracefulness into your carriage.

If too few fats and carbohydrates are eaten to supply the energy needs of the body, proteins are burned to produce energy. The body will use proteins for this purpose even though they may be badly needed for building and repair. On the other hand, when more proteins are eaten than the body requires for building and repair, the excess is either changed to energy or is stored as fat. Using protein for energy is wasteful and undesirable, both because foods like meats, eggs, and milk

are more expensive than fats and carbohydrates and because

the body changes proteins inefficiently into energy.

Besides being needed to build and repair body tissue, protein is used in building hæmoglobin, or the iron-containing substance of the red blood corpuscles. The active principle of the glands, or hormones, are made of proteins. All of the enzymes in the body, which aid in the production of energy, the digestion of foods, the building of new tissue, and the tearing down of worn-out tissue, are made of protein. Proteins in the blood are responsible for the collection of urine and removal of waste from the tissues. They also help prevent the blood and tissues from becoming either too acid or too alkaline. They are extremely important in bringing about the clotting of the blood. Proteins even form substances known as antibodies which combine with and render harmless bacteria, bacterial toxins, and other foreign materials reaching the blood which act as poisons. When proteins are not supplied to carry on these many functions, the body is susceptible to sickness and even premature death.

A mild protein deficiency is characterized by pale colour of blood, low blood pressure, fatigue, poor muscle tone leading to faulty posture and dropped internal organs, and low resistance to infections and diseases. In the young it causes retardation or cessation of growth. In severe deficiency, the proteins in the blood responsible for the collection of urine are decreased in amount until urine collection does not take place normally, water and wastes remain in the body, and the ankles and legs become swollen; the hands puffy.

In Vienna after the first war I saw thousands of men, women, and children with abdomens and legs swollen to twice their usual size. After the Red Cross began to give these starved people their daily cup of beans the swelling soon subsided. There is no danger of severe protein shortage in America. Such swelling occurs only in people whose kidneys are damaged or in women advanced in pregnancy who do not cat sufficient protein to supply both their own needs and those of the developing embryo.

People who have sufficient means to eat as they choose

usually obtain an average protein intake of from 10 to 14 per cent of the diet. Research has shown that this amount is superior to less protein, but when over 18 per cent of the diet is protein, the results are detrimental. Studies of human beings and animals indicate that activity is more easily performed and recovery from fatigue more rapid when the protein intake is adequate. Careful observation in a laboratory has shown that greater efficiency is produced when the proteins are furnished largely by daily products and fresh meats. Proteins from animal sources, such as meats, cheese, eggs, and yoghourt, are as a whole superior to vegetable proteins. Races such as the Eskimos and Laplanders whose diets are high in animal protein have excellent physiques, virility, and a capacity for endurance which surpass the energy and physiques of people cating only vegetable proteins, as do thousands in India and China.

Food cranks have often warned people not to eat mixtures of proteins and carbohydrates at the same meal. Dr. Rehfess of the Jefferson Medical College in Philadelphia undertook the investigation of this problem. One group of healthy persons, and another of patients with many types of illnesses, were fed carbohydrates alone, proteins alone, and the two foods mixed together. The completeness of digestion, the emptying time of the stomach, and the evacuation of wastes were the same whether the foods were eaten separately or mixed. In short, there is no scientific argument against mixing any or all foods. Nature mixes all foods. For example, mother's milk, the most perfect food nature has prepared, is a mixture of fats, carbohydrates, proteins, minerals, and vitamins.

Under certain conditions the protein needs of the body are increased. When persons are too ill to eat, body proteins are used to produce heat and energy. In such cases, and also during starvation, the less important muscles are first robbed of their protein. If adequate protein is not eaten, these muscles are torn down to supply the body with proteins necessary for the production of hæmoglobin, enzymes, antibodies, blood proteins, hormones, and for the upkeep of vital organs such as the heart and kidneys. Authorities now agree that protein intake should be increased after surgery, broken bones, dislocations, and other

injuries to the body, to help repair the injured tissue. At such times generous amounts of first-class proteins should be eaten.

HOW TO FILL YOUR PROTEIN NEEDS

The untrained person feels he has obtained the needed amount of protein if he eats meat once a day. Such is far from the case. A normal active woman should have 60 grams (1 gram is about a fifth of a teaspoonful) and an active man should have 75 grams of protein daily if each is to maintain buoyant health. Half of these amounts should be supplied from animal protein. During periods of rapid growth, as in late adolescence, the requirement jumps to about 80 grams daily for girls and 100 grams for boys. In late pregnancy and during lactation, from 80 to 100 grams of protein are needed daily.

Recent studies have revealed that about 60 per cent of the people in America obtain too little protein to build full health. With the higher costs of eggs, fish, and meat, protein deficiencies of a more severe nature may be expected. For that reason you should acquaint yourself with 'the honourable soya bean,' or the 'meat without bones' as it is called in the Orient. Prepared correctly as directed in the 'New Health Cookery', Chapter XXI, soya beans can be delicious and fortunately contain first-class protein. Remember, proteins are a necessity in the Vital Diet. So as to be more familiar with the protein content of the foods you eat, check your protein intake during the last twenty-four hours from the following table:

Meats and Fowl:	Amount	Grams Protein
beef, lean	I serving 1	17
chicken	1 serving	18
ham	1 serving	б
heart, beef	1 serving	II
kidney, lamb	ı serving	II
lamb chop	1 medium	IO
liver	ı serving	or

¹ The average serving is usually considered to be about 3 tablespoonfuls—about ‡ pound of meat.

Meats and Fowl: Amount Grams Promeat, average lean I serving 19	tein
sausage, bologna 5 slices 12	
steak I serving 21	
turkey 1 serving 16	
2 507 (225)	
Dairy products:	
milk, buttermilk 1 quart 33	
1 1	
1.	
1	
cottage 3 tablespoonfuls 10 cream 1½ tablespoonfuls 8	
egg I 6	
ice cream, commercial $\frac{1}{2}$ cup 2 cream soups $\frac{3}{4}$ cup 4	
cream soups $\frac{3}{4}$ cup 4	
Fish and Seafood:	
fish, average 1 serving 12	
oysters 7 medium 6	
salmon, canned $\frac{1}{3}$ cup 22	
shrimp 6 medium 8	
tuna 2 tablespoonfuls 12	
2 deplote Continue	
Nuts:	
almonds 10 medium 2	
peanuts 2 tablespoonfuls 10	
peanut butter 2 tablespoonfuls 14	
walnuts $\frac{1}{2}$ cup 8	
2 stip	
Vegetables:	
beans, soya, dry ½ cup	
corn, fresh or canned 3 cup 3.	
, , , y 1	
peas, dried and cooked 2 cup 7 fresh 2 cup 5	
fresh $\frac{1}{2}$ cup 5	
potato, white 1 medium 3	•
29	

Grain products:	Amount	Grams Protein
barley, whole	½ cup cooked	(8)
breaď	1 slice	3
wholemeal biscuits	2	, 2
macaroni, cooked	३ॄ cup	3
oatmeal, cooked	cup	3
rice, brown or white		3
shredded wheat	r biscuit	3
spaghetti	រុំ cup វិ្ទ cup	3
wheat germ	$\frac{1}{2}$ cup	4

The average serving of many vegetables contains only a gram of protein. This amount is so small and the protein so inferior that it is best not to consider it.

FATS FOR ENERGY

After protein needs have been supplied, our next thought must be to meet our energy needs. Fats are our most concentrated source of energy, and furnish 100 calories per tablespoonful. These are supplied by butter, cream, margarines, oils, shortenings, and by such fat-containing foods as meats, cheese, nuts, egg yolk, and chocolate. Contrary to popular opinion, soft fats are easily of quite completely digested, particularly pure vegetable oils, butter, and cream, which have melting points below body temperature. Aside from being sources of calories, vegetable oils supply vitamins B₆, E, and K. Fats are essential components of every cell in the body, and they make up part of the actual structure of nerve and brain tissue, a point often overlooked on radical reducing dicts.

Fats are broken down in the digestive tract to fatty acids, of which there are many, and glycerol, or glycerine. Three of these acids, chemically known as unsaturated fatty acids, have been found to be essential to health and are sometimes collectively spoken of as vitamin F. They are generously supplied in peanut, avocado, olive, and soya bean oils but are not rich in cream, butter, or animal fats.

The essential fatty acids have been found to supplement the

action of vitamin D in depositing calcium and phosphorus in the bones and teeth. They appear to be valuable in building resistance to infections, especially to tuberculosis. If these fatty acids are not supplied in the diet, eczema and skin rashes result. These abnormalities are particularly common in babies, who usually are not given vegetable oils, and have been corrected when vegetable oils are fed. Oils should have a prominent place in the diet of those wishing to have a good skin. These substances are likewise necessary before the body can deposit fat, and should be consumed in generous amounts by anyone who desires to gain weight. The amount of fat included in the diet should depend largely on weight. The overweight person should carefully avoid all fat except a teaspoonful of salad dressing once daily to supply essential fatty acids. On the other hand, the person wishing to gain should consume as much vegetable oil as the budget and supply allows and he funds palatable. Meat fats, which supply neither vitamins nor minerals, are inferior to vegetable oils.

SUGARS HELP TO BURN UP FAT

Under normal conditions fats are burned together with sugar to produce energy, and so combined, energy is produced with greater efficiency. Fats burn inefficiently without sugar, and, if sugar is not supplied, fatigue quickly results. It is, therefore, most important that the sources of sugar be known and

the supply always kept adequate.

There are many sources of sugar in the diet of which the average person is not aware. There are two sugars, known as glucose and fructose, which are widely distributed in almost all fruits and vegetables; these sugars are particularly rich in grapes, honey, new Irish potatoes, and sweet corn. Ordinary table sugar, or sucrose, occurs naturally in most of the sweeter fruits and vegetables and makes up half the solid material in ripe pineapple and the sweeter variety of carrots. Cane and maple syrups and sorghum and black molasses are largely sucrose, or table sugar. About 5 per cent of milk is sugar, known as milk sugar or lactose. Malt sugar, or maltose, comes

from sprouting grains and is formed from the digestive breakdown of all starches. A large percentage of all breads, cereals. dried beans and peas, potatoes, and other roots and tubers is starch which readily changes into sugar in the digestive process. Even muscle meat and liver contain a type of starch, known as glycogen, which is changed into sugar during digestion. About 10 per cent of fats, when digested, yield glycerine which forms sugar in the body. Even a number of acids can be changed into sugar by the liver: malic acid, which occurs in apples, pears, and other fruits; citric acid, found in meats, milk, and grain as well as in citrus juices; and lactic acid, which we obtain from buttermilk, sour milk, and yoghourt.

Sugar, therefore, is freed during the digestion of all vegetables. One group are spoken of as 5 per cent vegetables because 5 per cent of their weight is sugar. A serving, or about a half cup (100 grams), of the following vegetables supply the

body with approximately one teaspoonful of sugar:

asparagus	cucumbers	radishes
beets	kale	rhubarb
Brussels sprouts	lecks	spinach
cabbage -	lettuce	string beans
carrots	onions, dried	tomatoes
cauliflower	peppers, green	watercress
celery	pumpkin	

These foods have such an unusually low sugar content that they are generously allowed on reducing diets. They supply only about 20 calories per serving. Since they are rich in vitamins and minerals, however, they should be caten by everyone regardless of his weight.

Other vegetables and fruits, called 10 per cent foods, supply approximately two teaspoonfuls of sugar in an average serving:

artichokes	celery roots	grapefruit
blackberries	fruits canned with-	lemon
cantaloupe	out sugar	loganberries

olives peaches strawberries
onions, green peas, canned turnips
oranges pineapple, fresh water-melon
parsnips raspberries

The 15 per cent fruits and vegetables supply a tablespoonful of sugar, freed during the digestion of each serving of the following:

apple fruits canned with lima beans, dry
apricots sugar nectarines
cherries grapes orange juice
currants green peas tangerines
huckleberries

About $1\frac{1}{2}$ tablespoonfuls of sugar are supplied by average servings of the following 20 per cent foods:

baked beans figs potatoes bananas macaroni prunes cereal noodles spaghetti corn plums

A slice of bread, when digested, furnishes about a table-spoonful of sugar, whereas a serving of cereal furnishes about half again as much. Dried fruits are the richest sources of natural sugar, which makes up 75 per cent of their weight. If you ate a pound of dried fruit, you would be eating one and a half cups or three-fourths pound of sugar. Nuts, rich in both fats and protein, supply from one to two tablespoonfuls of sugar in each half cup. Without eating refined sugar in any form, a person who eats rather heartily can obtain as much as an entire pound, or two cups, of sugar in the course of one day. This sugar is a combination of all the natural sugars and sugar formers together with the sugar freed during the digestion of starch. If foods of high carbohydrate content are chosen, much more than a pound of sugar can be obtained daily even though

candy, jams, jellies, desserts, and refined sugar in all forms are avoided. Obviously more than sufficient sugar could be obtained and health could be greatly improved if refined sugar were never caten.

All natural sugars contain vitamins and minerals, which are completely lost in the refining of sugar. Refined white sugar also satisfies the appetite more readily than any other known food; therefore, when it is eaten, other more valuable foods are crowded out. Moreover, a type of bacteria known as the acidophilus bacillus has been found to grow in the mouth on refined sugar, breaking it down into lactic acid which quickly causes teeth to decay.

If you wish sweets and candy substitutes to please the palate use honey which can be had in many delightful flavours. Another valuable sweet which should be in every modern home is black molasses, rich in iron and many vitamins of the B family. A taste for it can easily be cultivated. Popcorn and salted peanuts and soya beans, although not sweet, make excellent candy substitutes, as do peanuts, popcorn, or puffed wheat made into crackerjack with black molasses. Dried fruits, as dates, figs, and apricots, form candy substitutes which are difficult to surpass, especially for youngsters. Indirectly, the tremendous consumption of refined sugar has been one of the greatest factors in bringing about the degeneration of American health. It is time that our newer knowledge were applied.

In planning a perfect diet, therefore, you must see that you obtain daily sufficient protein of first-class quality; that essential fatty acids are supplied; and that enough fats and carbohydrates are eaten to maintain your ideal weight, but no more. These first fundamental steps in planning a Vital Diet have not been glamourized as have the vitamins, but they are equally important if you are to have that zest for living.

BEEF, LAMB, AND VEAL

The best method of cooking any meat is the one which cooks it in the least time. This will depend upon the kind and

cut of meat, of course. Veal should be cooked longer than beef and lamb. Tender cuts should be cooked by dry heat under the griller, on top of the stove in a sizzling frying-pan, or roasted uncovered in the oven with no liquid added. Tougher cuts demand braising or stewing-methods in which the meat is first seared to keep the juices in, then slowly simmered, never boiled, in liquid, very little for braising, more for stewing. Marinating in lemon juice before cooking also helps to reduce the time by breaking down the tough fibres of the meat (see p. 41).

Care of Meat: Remove the meat from the paper in which it is wrapped the moment it comes from the market. Store it in an uncovered dish in the refrigerator in the spot where the temperature is lowest. Let quick-frozen meats thaw slowly in the refrigerator before you take off the wrapper. If there is not time for thawing, allow a little extra time for cooking. But if you want a nice brown crust, be sure the meat is

thoroughly thawed and dry before you try to saute it.

BEEF

Good beef has a smooth, glossy grain and is well marbled or streaked with fat. The outer fat should be thick and firm and creamy in colour.

Cuts for Roasting: The best cuts for roasting come from the sixth to twelfth ribs. The sirloin, which is tender solid meat, is also roasted for big groups. The tenderloin, smaller and more expensive, is solid meat and makes an elegant roast which is sliced thin against the grain when served. The chuck, which comes from the fifth rib, can be rolled, larded, and roasted. but the meat is not as tender as the other roasts and usually is better pot-roasted.

Cuts for Grilling: Grilling is the best way to cook meat in that it takes the least time. Unhappily, only the choicest and most expensive cuts are suitable for broiling unless the meat is chopped or otherwise tenderized. Porterhouse, tenderloin. sirloin, and top round are the cuts of beef suitable for broiling. Tenderloin steak, or filet mignon, is the aristocrat of the beef

family and costs the most. Club steaks and Delmonico steaks are simply small cuts of porterhouse. Minute steaks are thin slices from the top round. Cube steaks, a fairly recent discovery, are thin slices of the round cut almost through the tendons by a machine to make them tender.

Cuts for Pot-roasting and Stewing: The tougher cuts of meat need to be cooked by wet heat rather than dry heat as in roasting and broiling. That means cooking in liquid so the heat will penetrate the tough muscle fibres of the meat. The chuck, rump, round, brisket, and plate are the beef cuts which need either pot-roasting—another name is braising—or stewing. The disadvantages of longer cooking time and the use of liquid in cooking meat can be offset by following the methods described under Stews and Pot Roasts for Epicures.

SOME POINTERS ON MEAT COOKERY

BASTING ROASTS

Basting is one of those moot questions on which good cooks can get together and argue by the hour. To baste or not to baste, and with what? One school of epicures counts it a crime to baste roast beef; the other says the secret of success is basting at 15-minute intervals. Veal, it is generally agreed, is improved by basting because it is so lean. Lamb is often basted.

As for what to baste with: Pan drippings of course. Sometimes you need more liquid, or fat in the case of veal. If you want herb flavour, you will be basting with herbs and wine or herbs and olive oil. Or use Hauser Broth, with or without herbs. For veal, try half butter and half Hauser Broth. You have plenty of latitude in what to baste with.

HERBS FOR ROASTS

To impart herb flavours to roasts, you have your choice of rubbing the meat before cooking with olive oil flavoured with herbs, or basting during the roasting with a liquor in which herbs have soaked. Garlic goes with all roasts, of course. For beef, try thyme and summer savory; for lamb, rosemary or spearmint either with or without the garlic.

1 See page 303,

HERBS FOR STEAKS

Nothing can surpass a good steak quickly grilled and served immediately. But sometimes for variety try giving a steak a trace of herb flavour. First comes garlic. Rub the surface with a clove of garlic gashed so the juice can escape. Or insert thin slivers of garlic in the fat at the edge of the steak—not in the middle of the meat. Or soak crushed garlic cloves in olive oil for an hour, then rub the steak with the oil. Next time try minced thyme and rosemary in the olive oil instead of garlic. And the next time make it a bay leaf or a teaspoonful of marjoram.

CHOPS WITH HERBS

Chops, like steaks, can stand on their own feet. Quickly grilled, lightly salted, and served with a bit of butter melting on top, they can't be beaten. But they can be varied by lending them the flavour of herbs. Bay leaf, garlic, marjoram, summer savory, thyme, sweet basil, parsley—try any one or a combination of two or three. Either let the herbs soak in olive oil, then brush the meat with the oil, or cream fresh minced herbs into the butter you spread over the broiled chops.

STEWS AND POT ROASTS FOR EPICURES

- 1. Always sear the meat first in pure vegetable oil or shortening before the liquid is added. This improves the flavour, gives the stew or pot roast a more attractive colour and keeps in some of the vital juices which otherwise would escape into the liquid. (Of course you will cat every bit of the liquid, so you will get these juices, but the meat itself tastes better if you leave some of the flavour in it.)
- 2. Always use Hauser Broth instead of plain water for the cooking liquid. In this way you add to the meat the minerals and vitamins of vegetables. And also add onions, potatoes, carrots, turnips, or whatever you prefer to your stew and pot roast for extra nutritive value.
- 3. Never cook a stew or pot roast without parsley somewhere in the process—cooked in the stew the last half-hour,

sprinkled over the top, or simply whole sprigs decorating the dish if you can teach your family to eat the garnish instead of pushing it to the edge of the plate.

4. Use whole-wheat flour if you thicken the gravy, or sub-

stitute okra powder if you have to watch calories.

5. Be mindful of the glamour herbs impart to otherwise pedestrian dishes. Bay leaf, marjoram, thyme, summer savory, rosemary are all suitable for stews and pot roasts. Not all at once, of course, and not too much of any. Try them all at different times.

BROILED STEAK

Preheat the oven for 10 minutes, wipe the steak dry, grease the broiling rack, and lay the steak on it. The top of the steak should be about 3 inches below the flame. Cook until the top is brown, turn with a pancake turner so as not to puncture the meat, and brown the other side.

For a rare steak 1½ inches thick, allow 6-8 minutes for each side. A 2-inch steak will take 8 or 9 minutes for each side. Increase the time for medium or well-done steak; but note that steak continues to cook by the heat already in it after it is removed from the broiler, so be careful not to overcook it. Have it a little more underdone than you like when it is removed from the fire.

Sprinkle both sides with a bit of vegetable salt and spread with

a little softened butter.

There are various schools of thought on steak. Some like to cut it in pieces before cooking so that all sides of each piece are scared. Others like to give the steak a good bath of olive oil before cooking; still others spread mustard and olive oil over the cooked steak just before cooking is finished. A more recent method is to coat the steak on both sides with wet vegetable salt, as much as half an inch thick, then put a paper napkin over it to hold the salt in place. The napkin burns away, leaving the caked salt against the meat; when the steak is cooked the salt is broken off and thrown away. This method has the advantage of preventing the meat from absorbing gaseous odours from a gas burner.

MINUTE STEAK

Minute steak may be grilled, but it is generally pan-grilled. Heat a heavy frying pan until sizzling hot. Sear the steaks quickly on

both sides, lower the heat, and cook 2 minutes on each side. Remove to a hot platter, spread with softened butter, and sprinkle with vegetable salt and paprika. Garnish with parsley. Allow 1 steak, $\frac{1}{4}$ inch thick, for each serving.

VEAL

Veal is the flesh of the calf, which should be light in colour with just a slight pinkish tinge. The grain is fine and the texture smooth in good veal, but not so firm as the texture of beef. Veal has very little fat, but what there is should be firm.

The best veal comes from nilk-fed calves 6-8 weeks old. Many misconceptions have been prevalent about veal—that it is hard to digest, that it is poisonous if the calf is too young, and so forth. Recent experiments have proved the fallacy of these. Even veal a few days old has no injurious effects, although it is not recommended for the best flavour. Now nutritionists say that young veal is just as easily digested as beef, and it appears on diets for invalids for the first time.

Because veal lacks fat, more fat needs to be added during cooking than is the case with most other meats. It should always be thoroughly cooked. Pot-roasting, stewing, and roasting are

the most suitable methods of cooking it.

Cuts for Roasting: Loins, ribs, and legs are the best cuts for roasting. The leg can be boned and stuffed. The boned rolled shoulder is also used for roasting, and the breast is sometimes stuffed and roasted.

Cuts for Pot-roasting: Breast, a chunk off the leg, the rib chops, loin chops, or shoulder chops are suitable for pot-roasting.

Cuts for Stewing: Any solid meat can be used for stewing, but the most popular are shoulder, breast, shank, and flank.

ROAST VEAL

Wipe the meat with a cloth, rub with vegetable salt, and place it skin side up in an uncovered roaster. Sear in a hot oven (500° F.) for 30 minutes, or until the meat is browned. Reduce the heat to moderate (350° F.) for the rest of the time, allowing 25-30 minutes per pound. Include the searing time in estimating the time.

If a meat thermometer is used, insert it in the fleshy part of the roast so it does not touch the bone. The final reading should be 170° F. Veal needs basting while it roasts (see p. 36).

VEAL STEW

2 teaspoonfuls vegetable salt 2 pounds veal cut in 2-inch cubes 2 tablespoonfuls vegetable shortening I cup sliced mushrooms 12 small white onions I large onion, sliced I quart boiling Hauser Broth 5 tablespoonfuls butter 3 tablespoonfuls whole-wheat flour 1 cup chopped carrot 2 tablespoonfuls lemon juice I bay leaf 2 egg yolks, slightly beaten I sprig thyme I tablespoonful chopped parsley 2 sprigs parsley

Cut the meat in pieces if the butcher hasn't already done it. Melt the shortening in a heavy iron pot or Dutch oven. Brown the meat nicely, and with it the onion. Pour over it the hot broth. Add the chopped carrot, herbs, and vegetable salt. Simmer over a low flame, tightly covered, for about 2 hours, or until the meat is tender. Remove the yeal and strain the stock. Cook the sliced mushrooms in a double boiler with a little of the stock for 15 minutes. Put the 12 small onions in a heavy covered saucepan with 2 tablespoonfuls of the butter and stew for 20-30 minutes or until tender. Melt the remaining 3 tablespoonfuls of butter, stir in the flour, and add 3 cups of the strained stock. Cook over medium heat, stirring constantly, until the gravy thickens and boils. Add the lemon juice to the slightly beaten egg yolks, stir in a little of the hot sauce, and return all to the hot mixture. Add the veal and chopped parsley and re-heat. Serve on a platter with the onions and mushrooms. б servings.

LAMB AND MUTTON

The younger the lamb, the more delicate the flavour and the tenderer the texture. Meat from lambs 3-5 months old is known as 'spring lamb' and is in season from April through June. A small quantity of what is known as 'hot-house lamb,' bred under special conditions, is available from January through March, but is generally expensive. The flesh of both lamb and mutton should be fine-grained and smooth. The

flesh of the yearling is a dark pink, and mutton is still darker. The fat of lamb should be white and firm, whereas that of mutton is pink and harder. The flavour is distinctive, so drippings from the cooked meat should not be combined with those of other meats for use in cooking. Lamb is generally served slightly underdone.

Cuts for Roasting: The legs, loin, and rack, which includes 10 ribs, are used for roasting. The leg may be boned. Shoulder, boned and rolled, is also used for roasting. The breast may be stuffed and roasted. For a large roast, the legs, loin, and sometimes the ribs are cut in one piece, known as the saddle.

Cuts for Broiling: The loin, ribs, and shoulders are cut into chops and used for broiling. Trimmed rib chops are known as 'French chops.' The shoulder and leg steaks cut into 1-inch cubes may be broiled on a skewer.

Cuts for Stewing: Shoulder, breast, neck, and shank are generally selected for stew.

ROAST LAMB

Wipe the meat with a cloth. Rub into it the sauce for tenderizing meats given below, then treat with garlic or herbs as you prefer. When you are ready to start roasting it, put it in a roasting pan, skin side down in the case of a leg, and roast in a hot oven (500° F.) for 30 minutes. Turn down the heat and reduce the oven temperature to 350° F. and cook for another 2½ hours for a 5-pound roast.

Baste during the last hour with any herb-flavoured liquid you wish, keeping in mind the affinity between lamb and spearmint. A half cup of currant jelly mixed with a half cup of boiling Hauser Broth will give your roast an attractive glaze and an interesting flavour.

FOR TENDERIZING MEATS

top lemon juice

t tablespoonful chopped parsley

l large onion, chopped

2 tablespoonfuls chopped celery leaves I clove garlic, crushed
I tablespoonful honey
I teaspoonful vegetable salt

Mix all the ingredients and rub into roasts. If the meat is lean, add 3 tablespoonfuls of vegetable oil. All tougher cuts of meat can be marinated in this mixture for several hours before cooking.

GRILLED LAMB CHOPS

Preheat the grill oven for 10 minutes. Grease the grill rack. Wipe the meat with a cloth, place on the rack, and grill 2 inches from the flame. Unless directions for your range state otherwise, leave the door of the grill oven open. Sear the chops on both sides under high heat, then reduce the heat and continue cooking, turning occasionally.

For single chops about 3 inch thick, allow 10-12 minutes; for

double chops from 1-12 inches thick, 15-20 minutes.

Place on a hot platter and sprinkle both sides with vegetable salt and paprika. Spread with softened butter if desired.

STUFFED LAMB CHOPS

Have your butcher cut chops double thick, 2 ribs to each chop, and split the lean meat in half, cutting right to the bone. Stuff the chops with the following stuffing and press the open edges together:

Stuffing: Sauté I teaspoonful of chopped onion and 2 tablespoonfuls of chopped colory 3 minutes in a tablespoonful of butter. Add vegetable salt and paprika, I tablespoonful minced mint leaves, and 2 cup of dry breadcrumbs. Mix thoroughly.

Dip the stuffed chops in beaten egg and wheat germ and cook

in a hot oven (425° F.) for 45 minutes, turning once.

VITAMIN-RICH ORGAN MEATS

To this day in some parts of Europe the bride still makes a broth for her future husband which is supposed to be out of this world. The chief contents are glandular meats such as liver, sweetbreads, heart, and tripe, all nicely chopped up and cooked in quarts of broth enriched with onions, leeks, celery roots, parsley, and other garden greens. It is a very thick soup and is never strained, for the peasants say that in order to get the 'strength' of it, the groom has to eat the whole thing, plates and plates of it.

I don't know the origin of this bit of folk-lore, but I do know that in nature wild animals always eat the inner organs of their prey first. Only then do they start to eat the muscular meats.

With the advent of food analysis it has become more and more evident that organ meats are veritable treasure hoards of vitamins and minerals and that they contain the first-class proteins. Brains, heart, and kidneys are rich in the vitamins of the B family, especially vitamin G. Liver and sweetbreads are rich in the vitamin A. Besides liver, try heart, kidneys, sweetbreads, and tripe.

Always remember to eat lots of fresh vegetables and fruits whenever you eat these organ meats, for they are on the acid side chemically speaking. They also contain a great deal of chelesteral which is not desirable for older reaple.

cholesterol, which is not desirable for older people.

SAUTÉED LIVER

Roll slices of liver $\frac{1}{2}$ inch thick in seasoned flour. Melt butter or vegetable shortening in a heavy frying pan. Sauté over medium heat about 5 minutes, turning to brown both sides. Add more butter as needed. Serve with onions or bacon in the time-honoured manner. Or, if preferred, add sweet or sour cream to the pan after the liver is cooked and simmer just until the cream bubbles. Serve at once garnished with minced chives or parsley.

LIVER PEASANT STYLE

Get I pound of fresh calves' liver sliced thin, then cut in strips about $\frac{1}{2}$ inch wide. Melt a tablespoonful of good butter in a heavy frying-pan. In it sauté I good-sized onion and I tablespoonful of wheat germ. When the onion and wheat germ begin to turn brown, add the strips of liver and sauté for about 3 minutes. Then sprinkle with $\frac{1}{2}$ teaspoonful of vegetable salt. Just before removing the liver from the heat, put the cover on the frying pan for a minute to further tenderize the liver.

This makes an elegant luncheon dish, especially when served with fried apples and a large green salad. It is my favourite liver recipe.

GRILLED LIVER

Have the liver sliced $\frac{1}{2}$ — $\frac{3}{4}$ inch thick. Wash and dry thoroughly between paper towels. Brush the slices with melted butter or peanut oil and sprinkle with vegetable salt. Place on a buttered grill pan or baking sheet and grill 3 inches from the heat until it just changes

colour. This will take about 3 minutes on each side. Place on a hot platter, dot with butter, and sprinkle with minced parsley or watercress.

MUSHROOM CHICKEN LIVERS

\$\frac{3}{4}\$ pound chicken livers2 tablespoonfuls minced onion\$\frac{1}{2}\$ cup butter\$\frac{1}{2}\$ teaspoonful vegetable salt\$2\$ cups sliced mushrooms\$\frac{1}{8}\$ teaspoonful paprika

Wash, rinse, and cut the livers in pieces. Melt the butter in a heavy frying-pan and sauté the livers, mushrooms, and onion over low heat, stirring occasionally, for about 5 minutes. Add scasoning and serve on toast or boiled rice, or in the fold of an omelet.

SWEETBREADS

Sweetbreads are perishable and should be prepared as soon as they come from the market. Then store in the refrigerator until ready to use.

TO PREPARE SWEETBREADS

Place sweetbreads in cold salted water for half an hour. Simmer for 15 minutes in water to cover, adding 1 tablespoonful of lemon juice and 1 teaspoonful of vegetable salt for each quart of water. Or use Hauser Broth. The lemon helps to keep the sweetbreads white. When tender drain and plunge into cold water. Remove the tubes and membranes. Store in the refrigerator until ready to use.

SAUTÉED SWEETBREADS

Split prepared sweetbreads and preheat the grill. Dip the pieces in a little butter in a heavy frying-pan and sauté over medium heat until golden brown on both sides. Serve with lemon wedges and sprinkle with parsley.

GRILLED SWEETBREADS

Split prepared sweetbreads and preheat the grill. Dip the pieces of sweetbread in melted butter, sprinkle with vegetable salt, and place in a greased shallow baking pan. Grill 3 inches from the heat until golden brown on both sides—about 5 minutes for each side.

CHICKEN AND SWEETBREADS À LA KING

Melt the butter in a heavy frying-pan and sauté the mushrooms, green pepper, and sweetbreads over medium heat for 5 minutes, stirring occasionally. Reduce the heat, stir in the flour and seasonings, and blend until smooth. Add the milk gradually, stirring constantly, until the mixture thickens and boils. Add the chicken and pimentos.

Beat the egg yolks slightly and add the cream, blending well. Stir in a little of the hot sauce, then return all to the frying-pan, stirring until well blended. Unless the dish is to be served immediately, turn it into the top of a double boiler to keep hot and blend the flavours. Add the lemon juice just before serving.

CREAMED SWEETBREADS

2 pairs sweetbreads	🗜 teaspoonful paprika
½ cup butter	2 cups milk
ī tablespoonful ninced onion	1 pimento, diced
1 cup sliced mushrooms	ı tablespoonful lemon juice
3 tablespoonfuls whole-wheat flour	2 tablespoonfuls minced parsley
1 teaspoonful vegetable salt	

Prepare the sweetbreads and dice. Melt the butter in a heavy frying-pan and sauté the onion and mushrooms over low heat for a few minutes, stirring occasionally. Stir in the flour and seasonings and blend until smooth. Add the milk gradually, stirring constantly until the mixture thickens and boils. Stir in the sweetbreads, pimento, and lemon juice and reheat. Sprinkle with minced parsley.

HEART

The heart must be cooked slowly over a long period of time, preferably in Hauser Broth or water left over from vegetable

cookery. When the heart comes from the market, wash it thoroughly in cold water, changing the water several times. Remove the arteries, fat, and veins if the butcher has not already done it. Soak in sour milk or marinate for half an hour in French dressing to tenderize the heart. After this it can be cooked in vegetable water or Hauser Broth, or baked and braised.

HEART COOKED IN BROTH

Cut lamb and veal hearts in half, beef hearts in small pieces. Put them in a heavy kettle with enough Hauser Broth to cover, and add a couple of whole cloves, a bay leaf, a few celery leaves, and some slices of onion. Cover and simmer over a low flame for about half an hour. Add I teaspoonful of vegetable salt for each quart of broth and continue simmering until tender. It will take $\frac{3}{4}-I$ hour for veal or lamb heart and $I-I\frac{1}{2}$ hours for beef heart. Trim off any remaining fat or gristle and serve hot or cold.

GRILLED HEART

Cook the heart in broth, then cut in ½-inch slices. Brush the slices with melted butter and place them on a shallow grill pan. Broil 3 inches from the flame for about 3 minutes on each side.

SAUTÉED HEART

Cook the heart in broth and cut in ½-inch slices. Melt a little butter in a heavy frying-pan and sauté the slices of heart about 3 minutes on each side.

BRAISED HEART

Wash the heart and remove the arteries, veins, and fat. Soak in sour milk or marinate in French dressing for half an hour to an hour. Stuff with any well-seasoned stuffing and rub well with flour. Brown evenly in a heavy pot, using as small an amount of vegetable shortening as possible. Slip a rack under the heart and add \(\frac{3}{4}\)-r cup of Hauser Broth. Cover closely and simmer over very low heat until tender—2 hours for lamb or veal hearts and 3 hours for beef.

BAKED STUFFED HEART

Wash the heart and remove the arteries, veins, and fat. Soak in sour milk or marinate in French dressing for half an hour to an hour. Cover with boiling water, reduce heat, and simmer slowly about 20 minutes. Dry and slit one side. Fill with any well-seasoned stuffing and fasten the edges together again. Place in a small roasting pan with 2 cups of canned tomatoes, I tablespoonful of minced onion, a bay leaf, and ½ cup of chopped celery. Dot with butter, cover, and bake in as low oven (300° F) until tender—2 hours for beef heart and 1½ hours for lamb and veal heart. Baste occasionally, and as the tomato juice cooks away, add Hauser Broth as needed. Bake uncovered during the last 15 minutes. Remove the bay leaf and serve the tomato sauce with the heart.

KIDNEYS

Kidneys have one strange property—if they are cooked quickly they are tender, but if they are overcooked in the least it will take hours to make them tender again. For this reason they are good either broiled or sautéed, or cooked long in stews or meat pies.

Wash the kidneys thoroughly and remove the outer membrane. Split them through the centre and cut out the fat and large tubules. A pair of scissors will make this job easier.

To eliminate excess acidity, we make an exception to the rule and soak beef kidneys in salted water for half an hour to an hour. Lamb or veal kidneys can be soaked or not as desired.

Lamb and veal kidneys may be grilled or sautéed; beef kidney is better adapted to braising or stewing.

GRILLED KIDNEYS

Drain, rinse, and dry kidneys. Brush with melted butter and grill 3 inches from the heat, turning to brown on both sides. Lamb kidneys take about 3 minutes on each side; veal kidneys 5 or 6 minutes. Test by cutting the largest part of the muscle. If the meat is still raw, continue to cook. When done, place on a hot platter, dot with butter, and garnish with minced parsley.

SAUTÉED KIDNEYS

Drain, rinse, and dry kidneys and cut into thin slices. Melt a little butter in a heavy frying-pan and cook over medium heat 6-10 minutes for lamb kidneys, 10-12 minutes for veal. Stir occasionally to brown on both sides and add more butter as needed. Season to taste and serve sprinkled with minced parsley.

KIDNEY STEW

I beef, 3 veal, or 9 lamb kidneys
4 tablespoonfuls butter
I can vegetable soup
I tablespoonful lemon juice
I teaspoonful vegetable salt

Prepare and soak the kidneys as directed above. Drain, dry, and slice thin. Melt the butter in a large frying-pan, add the kidneys and onions, and sauté over medium heat about 5 minutes, stirring occasionally. Add the seasonings and soup and simmer about 10 minutes until the kidneys are tender and the soup thoroughly heated. Stir in the lemon juice just before serving. Serve on toast or with boiled rice.

BRAINS

Brains to be really appetizing should be parboiled as soon as they come from the market. Then store them in the refrigerator until ready to use. But first soak them in cold salted water for half an hour and remove all membranes.

BRAINS COOKED WITH HERBS

Simmer in water to cover for 15 minutes, adding 1 tablespoonful of lemon juice and 1 teaspoonful of vegetable salt for each quart of water. The lemon will help to keep them white.

Better yet, use Hauser Broth for the simmering water; or, failing that, add a handful of chopped parsley and leeks to the water.

Don't boil them rapidly; it will make them tough. And don't overcook, for brains are very soft and you are likely to have nothing left. As soon as the brains are firm, remove them carefully from the water with a skimmer, plunge them into cold water, and store until you are ready to prepare them.

HOW TO SERVE BRAINS ATTRACTIVELY

After the brains are prepared as above, they can be grilled, sautéed, used in salad alone or with chicken, served in a rich cream sauce or tomato sauce, or with mushrooms in a mushroom sauce.

SAUTÉED BRAINS

Dip the brains in egg and roll in wheat germ. Melt a little butter in a heavy frying-pan and sauté the brains over medium heat until they are golden brown on both sides. Serve with lemon wedges and sprinkle with loads of minced parsley.

GRILLED BRAINS

Brush prepared brains with melted butter and place in a buttered shallow baking pan. Grill 3 inches from the heat until delicately browned, which will take about 3 minutes for each side. Serve with lemon and sprinkle with minced parsley or chopped watercress.

SCRAMBLED EGGS AND BRAINS

3 pairs calves' brains
4 eggs
2 tablespoonful paprika
2 tablespoonfuls butter
1 tablespoonful minced green pepper
2 teaspoonful soya sauce
3 teaspoonful soya sauce
4 teaspoonful vegetable salt
5 tablespoonful minced parsley

Prepare the brains as directed above. Drain and dice. Beat the eggs with milk, soya sauce, salt, and paprika. Melt the butter in a heavy frying-pan and sauté the green pepper or onion about 2 minutes, until golden brown. Add the brains and sauté another minute. Then pour in the egg mixture and proceed as for scrambled eggs.

TRIPE

Tripe is the walls of the stomach of a beef animal. Plain tripe comes from the first stomach, honeycomb tripe from the second. Fresh tripe is cooked before it is sold but always needs further cooking. Cured tripe takes less time to cook.

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Cook the tripe in water to cover, simmering for about an hour or until tender. After that, brush it with melted butter and grill; or dice it and serve in a well-seasoned tomato sauce.

CREOLE TRIPE

1½ pounds honeycomb tripe
2 tablespoonfuls butter
2 tablespoonfuls minced onion
3 tablespoonfuls minced onion
4 tablespoonfuls minced onion
5 tablespoonfuls minced
6 tup tomato paste
7 tablespoonfuls minced parsley

Wash the tripe thoroughly and dice. Cover with cold water in a saucepan and bring to the boiling point. Drain, cover with fresh boiling water, and simmer covered until tender. This will take anywhere from 40 minutes to 2 or 3 hours, depending upon the age

of the tripe.

Drain and save I cup of the water. Melt the butter in a heavy frying-pan and sauté the onion, green pepper, and celery about 3 minutes over low heat. Add the flour and seasonings and stir until well blended. Gradually stir in the tripe liquid and the tomato paste (or 2 cups of canned tomatoes if preferred). Stir constantly until the sauce is smooth and thick. Add the tripe, cover, and simmer over low heat about 10 minutes, just until the tripe is heated through. Add the minced parsley and serve on toast or boiled rice.

POULTRY AND GAME

From the mild domesticated capon to the gamey wild duck, there is a wide range of flavour and nourishment. Chicken is the favourite for the small dinner; for special occasions there is the noble brown turkey, guinea hen, goose, duck, quail, not to mention the game birds.

Poultry is slightly higher than meat in muscle protein and better serves those who have to watch their waistlines because it is comparatively low in fat except in the case of duck and goose.

GRILLED CHICKEN

Grilling is the preferred method of cooking chicken because the cooking time is shorter. Grillers are split down the back, and larger birds sometimes cut in four pieces.

Select young birds from 8-12 weeks old, weighing not more than 2½ pounds. Wash and dry. If you are using quick-frozen birds, defrost and let them warm to room temperature before broiling.

Brush with melted butter or softened vegetable shortening. Southerners like to wrap thin strips of bacon around the legs. Garlic fans should let a crushed clove of garlic permeate the melted butter before brushing the chicken. Or rub the grill rack with garlic.

Preheat the griller to 350°-375° F. Place the chicken skin side down. Be sure the chicken is 3 or 4 inches below the heating element, and leave the door of the grilling compartment ajar unless your stove gives instructions to the contrary. A 2-pound chicken will take from 35-45 minutes to grill thoroughly. Baste occasionally with pan drippings or with melted butter, and turn frequently to brown both sides. Sprinkle with vegetable salt before removing from the oven.

Serve immediately with its own juices on a hot platter and garnish with chopped parsley.

GRILLED TURKEY

Fat young turkeys about 3 months old can be grilled as a change from the traditional roast turkey. Split, or have them split, down the back and remove the breastbone. Divide the bird in half. Next, remove the leg bones by cutting the skin on the side next to the body and taking out the bones, disturbing the flesh as little as possible. Cut off the wings at the elbow joint and cut the skin on the rest of the wing on the side next to the body. Leave the backbone and ribs to help hold the turkey halves in shape.

Brush with melted butter and place skin side down on a grilling rack. Broil 60-75 minutes in a preheated grilling compartment, turning often to brown both sides and basting with melted butter.

Or the turkey halves may be stuffed before grilling. Prepare your favourite dressing, using about 3 cups of breadcrumbs for a 4-pound turkey. Put a spoonful of stuffing into the boned legs and wings and sew or skewer neatly to the body. Grill as described above. When nearly done turn the turkey halves skin side down

on the griller and fill each cup-shaped hollow with stuffing, patting it into place. Return to the griller to finish cooking the meat and brown the stuffing. Serve on a hot platter, skin side up, stuffing underneath.

GRILLED GAME BIRDS

Tender young birds, grouse, quail, pheasant, and wild duckling, are prepared and cooked much like chicken. If you buy them in the market the butcher will draw and split them, or ask him to bone them. If the birds come to you straight from a friend's game bag, best take them to your butcher and prevail upon him to dress and draw them for you.

Wash, dry, brush with melted butter, and grill in a preheated grilling compartment as for Grilled Chicken. Game birds are lean and require extra fat during cooking. Light-meat birds such as quail and partridge should be well done. The dark-meat birds may be served rare.

Length of grilling time will depend upon the size of the bird and whether you are serving it well done or rare. Quail will take 10–15 minutes; grouse 15–20 minutes; pheasant and partridge need 20–30 minutes.

Sprinkle with vegetable salt just before removing from the oven, and serve hot on toast with a tart jelly.

GRILLED DUCKLING

Grill plump young ducklings weighing 2-3 pounds. Split and grill as directed for Grilled Chicken, allowing 35-45 minutes.

ROAST CHICKEN

Choose a young, well-fattened bird from 5-9 months old, weighing $3\frac{1}{2}$ -5 or 6 pounds (capons will weigh more). Singe and wash the chicken as directed, then sprinkle the inside lightly with vegetable salt. Prepare stuffing and fill the body and neck cavities. Stuff lightly, do not pack, for stuffing expands with cooking and may burst the skin if there is too much of it. If the body cavity has been cut lengthwise, draw the edges of the cut together with a darning needle and a heavy thread or with skewers. You will generally find, however, that the cavity has been cut crosswise, which means that the edges will not meet. Use a crust of bread

tucked into the hole to keep the stuffing in. At the neck, tie a string around the skin to hold it tight if you are leaving the neck in. If you cut off the neck before cooking, simply fold the loose skin

over and pin it to the back with a skewer.

Truss the bird to help it keep its shape while roasting. Place the bird breast down and tie the centre of a piece of string around the tail. Pull the legs close to the tail and tie legs and tail together. Fold the wings back, like arms akimbo, and run a large skewer through both wings and the body to hold them in place. Cross the ends of the cord holding the legs and tie them to the skewer.

Brush the skin with melted butter or coat lightly with whole-wheat flour, as desired. Place the bird breast side down in a shallow baking pan with a rack in the bottom. Roast uncovered in a moderate oven (350° F.), allowing 30 minutes per pound for birds under 4 pounds; 22–25 minutes for birds over 4 pounds. If you use a meat thermometer, insert it in the thickest part of the thigh and roast to 185° F. Baste frequently or cover with a cloth dipped in melted fat.

About half-way through the cooking period turn the bird breast up, grasping it at head and foot with hands protected by clean cloths or paper towelling. The bird is done when a 2-tined fork will pierce the breast and thigh easily and the juice which runs out shows no trace of red.

Remove to a hot platter and take off the strings and skewers.

Basting Poultry: Baste roast poultry frequently with Hauser Broth. For new and subtle flavours, use 2 parts broth and 1 part sherry. Or dissolve a lump of butter in \(\frac{1}{2}\) cup of hot broth; add vegetable salt to taste, 1 tablespoonful of tomato paste, 1 tablespoonful of olive oil, and \(\frac{1}{2}\) cup dry white wine.

ROAST TURKEY

Roast as described for Roast Chicken, allowing 20-25 minutes per pound for birds under 10 pounds; 18-20 minutes for those from 10-16 pounds; and 15-18 minutes for those over 16 pounds. Start the turkey lying on one side; shift to the other side after a third of the cooking time has passed; then finish breast up.

ROAST DUCK

Stuff and truss as directed for Roast Chicken, using a fruit stuffing since duck is very fat. Or omit the stuffing and fill the body cavity

with quartered tart apples or celery stalks and leaves and a large

onion cut in quarters.

Prick the skin all over with a fork to let the fat drain out. Roast in a moderate oven (350° F.), allowing 2-2½ hours for a 5-6 pound duck. Pour off the fat occasionally as it accumulates in the bottom of the pan. Do not use a buttered cloth with duck, and baste only occasionally if at all.

DUCK WITH ORANGE

About an hour before Roast Duck is done, pour off all the fat in the pan and begin to baste with the following mixture:

I cup orange juice 🗜 cup Barbados or brown sugar 💢 2 tablespoonfuls drippings.

½ cup shredded orange rind

Baste frequently with this mixture during the remaining hours of roasting.

ROAST GOOSE

Stuff and truss as described for Roast Chicken, using a fruit stuffing. Prick the skin all over with a sharp fork to let the fat drain out. Roast in a moderate oven (325° F.), allowing about 20 minutes per pound. Pour off the fat as it accumulates in the bottom of the pan. Goose need not be basted at all.

ROAST GUINEA HEN

Select a guinea hen weighing 2½-3 pounds. Clean, stuff, and truss as described for Roast Chicken. Brown rice and mushroom stuffing is good with guinea, or you may omit stuffing and put an onion in the body cavity with 2 tablespoonfuls of butter.

Guinea is dry, so it must be lavishly basted, or else lay 2 strips of bacon on top of the back—the bird will be breast down in the pan. Roast uncovered in a slow oven (300° F.), allowing 30 minutes per pound. After half an hour or so remove the strips of bacon and turn breast up.

Serve with broiled pineapple rings.

SAUTÉED CHICKEN

Have the butcher cut a fryer into pieces for serving. Singe and wash each piece and coat with seasoned whole-wheat flour, wheat

germ, or a mixture of 3 parts flour to 1 part corn meal. For a crisp, crunchy crust such as you find in some Southern fried chicken, add 1 teaspoonful of baking powder to a cup of flour and leave the

pieces of chicken dripping wet so they will coat heavily.

In a heavy frying-pan melt half butter and half vegetable shortening to a depth of an inch. Let the fat get moderately hot, then gently lower the pieces of chicken into it. Let them have plenty of room—don't crowd them. Brown quickly on one side, then turn and brown on the other. If you like a crisp crust, cover the frying-pan for the first half of the cooking time, then finish uncovered. For a tender crust reverse the process, browning the chicken in an uncovered pan and then covering to finish.

Sauté for ½ hour to I hour, depending on the size of the chicken. Pour off all but 4 tablespoonfuls of the drippings, sprinkle a very little flour over the fat left in the pan, and blend thoroughly. Add 1½ cups of light cream—or more if desired—season with vegetable salt and paprika, and boil until thoroughly cooked and coloured by the bits of crust left in the pan. Put the pieces of chicken on a platter, pour the gravy over them, and sprinkle with chopped parsley. Just before removing the gravy from the fire, add ½ cup of sherry per cup of sauce if desired.

FRENCH-FRIED CHICKEN

Coat the pieces of chicken with seasoned flour, dip in egg beaten up with a tablespoonful of water, then coat with whole-wheat breadcrumbs or wheat germ. Lower gently into deep hot fat—use vegetable oils or peanut oil—heated to 350° F. Cook 10–15 minutes until brown. Remove from the fat, drain on brown paper, and place on a rack in a shallow roasting pan. Cover and bake in a moderate oven (325° F.) about an hour.

BRAISED CHICKEN

Select a plump fowl and have it cut into pieces for serving. Singe and wash, then wipe dry. Dredge with ½ cup of seasoned whole-wheat flour and save the flour which is left to thicken the gravy. Melt butter or vegetable shortening in a heavy frying-pan, just enough to brown the pieces of chicken. Start with 3 tablespoonfuls and add more if necessary. Add ½ cup of sliced onions to the chicken if desired.

Remove to a heavy pot which has a tight cover. Pour 1-2 cups of any of the following liquids over the chicken: Hauser Broth, milk, cream, sour cream, or red wine. Cover tightly and simmer over low heat 1½-2 hours, or until tender. Add more liquid as needed. Add vegetable salt to taste during the last few minutes of cooking.

If preferred, bake in a casserole instead of stewing on top of the

stove.

BRAISED DUCK

Duck may be braised like Braised Chicken, but drain off most of the fat before adding the liquid.

BRAISED GUINEA HEN

Prepare as directed for Braised Chicken, adding sliced mushrooms half an hour before the guinea is done.

STEWED POULTRY

Fowl may be stewed either whole or in pieces, preferably whole to keep more flavour in the meat. Singe, wash, and groom the bird as though for roasting. Place on a rack in a heavy pot. Half fill the pot with Hauser Broth and add I tablespoonful of lemon juice if the bird is an old one.

The bird may be stewed plain, or add vegetables and herbs to the stock—a carrot, an onion, a stalk of celery, a sprig of parsley,

some cloves, bay leaf, thyme or marjoram, and so forth.

Cover and simmer gently over low heat until tender and the meat begins to loosen from the bones, adding more broth if necessary. Add 1½ teaspoonfuls of vegetable salt during the last few minutes of cooking. Turn the bird occasionally.

A fowl will probably need 3-4 hours, an old turkey 5 hours or

longer. Let the bird cool breast down in the stock.

Skim off the fat from the stock when cool and remove the chicken. Discard the skin and bones and slice or dice the meat. Strain the stock and use it for broth, gravy, sauces, and so forth.

CHICKEN FRICASSEE

Chicken fricassee is essentially stewed chicken cut in pieces for serving, with the gravy thickened as for meat stews. But that is

only the beginning, although some like their chicken fricassee plain. Others, however, appreciate the richness of cream, the tang of

herbs with chicken. Try this:

Have the chicken cut in pieces for serving. Singe and wash each piece, then dry with paper towelling. Roll in seasoned whole-wheat flour. Melt 3 tablespoonfuls of butter in a heavy pot, or use olive oil, and brown the chicken. Cover with boiling Hauser Broth when the chicken is a rich brown. Add ½ bay leaf, I teaspoonful summer savory, ½ cup chopped parsley, I small onion, chopped, or use 2 shallots if you can get them. Cover the pot tightly and simmer over low heat for an hour to an hour and a half, until the chicken is tender. Add I teaspoonful of vegetable salt the last few minutes of cooking.

Remove the chicken from the water and put it where it will keep warm. Measure the liquor in the pot and add boiling broth if necessary to make 3 cups. Taste and see if you have enough salt. Melt 4 tablespoonfuls of butter in a saucepan and stir in 3 tablespoonfuls of whole-wheat flour, blending to a smooth paste. Gradually stir in 1 cup of stock from the pot, stirring constantly. When thick, add the rest of the stock and simmer for 10 minutes. Beat 2 egg yolks until thick and lemon-coloured. Heat 1 cup of cream and add it gradually to the beaten egg yolks, stirring all the time. Remove the gravy from the fire and gradually blend the cream and egg mixture into it. Pour over the chicken and serve.

CHICKEN À LA KING

Follow the recipe for Chicken and Sweetbreads à la King, using 2 cups of diced cold chicken and omitting sweetbreads.

POULTRY STUFFINGS

Stuffings are all built upon a starchy base—whole-wheat or corn-bread crumbs, flaky boiled brown or unpolished rice, or well-seasoned mashed potatoes. Melted butter is added for richness, then herbs and vegetables for seasonings—savory, sweet marjoram, thyme, sage, celery, parsley, and onion are the favourites.

These are the basic ingredients. To them may be added such special ingredients as nuts, oysters, mushrooms, dried fruits, raisins, and tart apple cubes.

Some stuffings are fluffy and dry, moistened only with melted fat and juices from the bird as it cooks. Perhaps the majority of people prefer this kind because it is lighter. Others prefer a moist, more compact stuffing made with rice or potatoes or liquid added to the breadcrumbs.

HOW MUCH TO MAKE

Figure the amount of stuffing you will need from the dressed weight of the bird. For a bird weighing less than 10 pounds, use I cup less than the weight of the bird. That is, for a 5-pound bird, use 4 cups of crumbs. For a larger bird over 10 pounds, use 2 cups of crumbs less than the weight—10 cups for a 12-pound bird. Since rice swells a good deal, use I cup less of rice than you would of crumbs.

For dry stuffings use bread 2 or 3 days old. A 1-pound loaf will make about 4 cups of fluffy crumbs without crusts.

In the following recipes the weight of birds for which that amount is suitable is given in each case.

TO MAKE BREADCRUMBS

Cut the loaf of bread in two and fork out the inside, leaving the crusts. Pick the pieces of bread apart with the fingers, taking care not to crush it and make it soggy. For moist dressings you can use dry breadcrumbs,

HERB STUFFING (5-pound chicken)

I small onion, chopped
 I clove garlic, if desired, chopped
 4 tablespoonfuls butter
 2 cup minced celery, leaves and stalks
 I tablespoonful thyme
 4 cups whole-wheat breadcrumbs
 I teaspoonful vegetable salt
 I chestnuts or walnuts, chopped

Melt the butter in a heavy frying-pan. Add the onion and garlic and sauté 10 minutes over low heat. Stir in the celery, herbs, and salt. Put the breadcrumbs into a bowl, add the vegetables and herbs and the chopped nuts, and mix well.

SAVORY STUFFING

(12-pound turkey)

3/4 cup butter	10 cups breadcrumbs
2 cups chopped celery	2 teaspoonfuls summer savory
½ cup chopped parsley	1 teaspoonful thyme
I small onion, chopped	2 teaspoonfuls vegetable salt
I clove garlic, chopped, if desired	

Melt the butter in a heavy frying-pan. Brown the celery, parsley, and onion in it. Add the herbs and salt, mix well, and blend with the breadcrumbs.

OYSTER STUFFING

(12-pound turkey)

1½ pints oysters	10 cups breadcrumbs
र्हे cup butter	½ teaspoonful summer savory
2 tablespoonfuls chopped parsley	‡ teaspoonful celery seed
I tablespoonful chopped onion	2 teaspoonfuls vegetable salt

Heat the oysters gently in their own liquor, then drain. Melt the fat and brown the parsley and onion in it. Add with the oysters to the breadcrumbs and mix well. Add the celery seed and salt.

CELERY STUFFING

(10-pound goose)

½ cup butter	8 cups breadcrumbs
I cup chopped parsley	I teaspoonful celery seed
I cup chopped onion	teaspoonful summer savory
4 cups chopped celery, leaves and	2 teaspoonfuls vegetable salt
stalks	

Melt the butter and brown the parsley and onion. Add to the raw celery, breadcrumbs, and seasonings and mix well.

CORN-BREAD STUFFING

(5-pound chicken)

6 tablespoonfuls butter 2 cup chopped celery 1 cup chopped parsley 1 small onion, chopped 4 cups corn-bread crumbs
½ teaspoonful thyme
I teaspoonful vegetable salt

Melt the fat and brown the celery, parsley, and onion. Add to the corn-bread crumbs and seasonings and mix well.

BROWN RICE AND MUSHROOM STUFFING

3 cups boiled brown rice ½ pound mushrooms, sliced ½ cup butter 1 tablespoonful grated onion ½ teaspoonful vegetable salt Paprika to taste

Melt the butter and sauté the sliced mushrooms until soft. Combine all the ingredients and toss together lightly.

ORANGE STUFFING

(5-pound duck)

3 cups dry bread cubes, toasted ½ cup hot Hauser Broth

I teaspoonful grated orange rind

1 cup diced orange pulp 2 cups diced celery

3 tablespoonfuls minced parsley

4 tablespoonfuls melted butter

1 egg, slightly beaten 1 teaspoonful vegetable salt

½ teaspoonful paprika

½ teaspoonful poultry seasoning

Combine the ingredients and mix lightly. If desired, sauté the celery in butter for 3 minutes before combining.

ANNA LEE'S POULTRY DRESSING

(5-pound chicken)

2 cups shredded carrots

2 apples, shredded

I cup shredded celery

I large onion, shredded

I cup shredded summer squash

½ cup raisins, chopped fine

I cup chopped nutmeats
2 green peppers, chopped
Vegetable salt to taste

Vegetable salt to taste Bit of garlic

2 eggs, well beaten

Combine all ingredients. Very delicious and particularly good for reducing diets.

VEGETABLE COOKERY

In no other department of cookery are care and intelligence so necessary as in the cooking of vegetables. And yet good vegetable cookery is really a simple, time-saving matter. It actually takes less time and trouble to do it right than to turn out flat, lifeless, overcooked vegetables.

Just as surely as sugar dissolves in water, the vital elements of vegetables dissolve in cooking water. The principle of the newstyle cookery is to save those rich food elements—by cooking in as little time as possible, in as little liquid as possible, and never throwing away any liquid which remains. Never use soda to keep vegetables green, and never peel, scrape, or pare when the scrubbing brush will do as well.

SHORT-COOKING VEGETABLES

The greatest loss of vitamins occurs between the time when the food is put on the fire and the time when it reaches the boiling point. Therefore have your cooking pot—one small enough so your vegetables will fill it to the top—piping hot before the food is put in. In the bottom put 2 or 3 table-spoonfuls of Hauser Broth, bring it to the boil, and when the pot is filled with steam put in the vegetables.

To Speed the Cooking Time: As the cell walls break down while the vegetables cook, the nutrients pass into the cooking water. Therefore fewer nutrients are lost when the cooking time is short. If you shred, dice, or chop the vegetables, then cook them in small pots with tight lids to keep the air out and the steam in, you can greatly reduce the time necessary for cooking, hence save minerals and vitamins.

EQUIPMENT FOR SHORT-COOKING

Pots: Heavy steel, glass, or pottery pots which distribute the heat from the bottom to the sides and lid of the pan give best results because the vegetables can be cooked in a very little liquid, just enough to start the steam. There is a vogue nowa-

days for pottery. If you are devoted to herbs, try seasoning your pottery cooking vessels by boiling herbs in them for several hours—on the same principle as seasoning an iron frying-pan with grease. Then everything you cook in the seasoned pot will have a delicate nuance of herb flavour.

Snitzler: I discovered that there is a great waste of time in shredding and dicing vegetables and fruits, so a clever gadget called the snitzler was invented. Similar gadgets can now be bought in many stores—both English and American. In the meantime, if you cannot get hold of one, use a coarse shredder to prepare vegetables for short-cooking—one that does not mash, but cuts in thin slices. And remember that vitamin C deteriorates upon exposure to air, so the shredding should be done at the last moment before cooking.

Clock: Short-cooking is a matter of minutes. You will need a clock convenient to your range, a clock with a large round

face on which you can tell the minutes accurately.

BOILED VEGETABLES

If you have no heavy waterless cooking pots and don't wish to buy new ones, you can still save minerals and vitamins by this method: Bring the water to a rolling boil, add vegetable salt, then the food, and bring to a boil again as quickly as possible. Use just enough water barely to cover the vegetables.

TO KEEP THE COLOUR OF VEGETABLES

All vegetables taste better cooked in a little Hauser Broth. To keep the colour in them without the use of soda, add a few drops of lemon to the liquid. Sooner or later some progressive manufacturer will produce a vitamin C tablet to enrich the cooking water and keep in the natural colour of vegetables. Until that day lemon juice will have to do.

SELECTING YOUR VEGETABLES

Choose young, tender vegetables, as fresh as possible in this day of commercial farming. See that the colours are bright, the

vegetables firm and crisp in texture. Destruction of vitamins begins the moment a vegetable is pulled from the earth or plucked from the plant. There is nothing you can do about the care the vegetable receives before it reaches you, but you can tell something about which have had the best treatment by their appearance. Fortunately, the vegetables which look the best usually have the best flavour and the highest vitamin content.

Green leafy vegetables such as spinach and lettuce should be crisp when you buy them—and so also should peas, string beans, and all seed or pod vegetables. Roots, tubers, bulbs, and fruits—carrots, onions, tomatoes, etc.—should be firm with unwrinkled skins. Onions and potatoes should not have sprouts.

Canned and Frozen Vegetables: Garden-fresh vegetables are highest in vitamin content, of course. But because quick-frozen vegetables are processed the same day they are picked, they often have better food value than fresh vegetables shipped to distant markets. Quick-frozen vegetables put up by well-known firms are uniformly reliable. But look with suspicion upon cellophane bags of quick-frozen vegetables without familiar labels. They may or may not be good.

Once you let frozen vegetables thaw, cook them quickly. If you let them lie around, they will lose their vitamin C just as fast as fresh vegetables. It is a good plan to follow directions on package.

HOW TO CARE FOR YOUR VEGETABLES

Wash all vegetables thoroughly. Scrub roots and tubers with a brush. If they are young, they need not be pecked, but blemishes, eyes, mould, etc., should be removed.

Greens, flowers, and heads should be thoroughly washed in several waters. Pick over greens and remove any wilted leaves before you put them in water. It is easier to handle them when they are dry. Shake and drain in a colander or sieve. Remove stem ends, stalks, or cores from heads.

All vegetables to be eaten raw should be crisped in a hydrator. Never cut or otherwise break the skin of a vegetable until

you are ready to use it because destruction of vitamin C begins the moment the cut surface is exposed to the air.

Store mushrooms and pod vegetables without washing in a tightly covered container in the refrigerator. Root vegetables should be stored in a cool place, preferably a vegetable bin where they can be spread out so they do not touch each other.

Potatoes and dry onions keep for some time without serious loss of vitamins, but all other vegetables should be used as soon as possible.

ARTICHOKES

Wash the artichokes thoroughly and remove any discoloured outer leaves. Cut off the spiny tips of the leaves with scissors and chop off the stem about ½ inch below the base of the leaves. Drop into 2 inches of boiling water in a heavy pot. As soon as the water boils again, cover the pot tightly. Cook 20–30 minutes, until the outer leaves come away easily from the stalk. Serve whole with melted butter or Hollandaise sauce.

Note: The water in which artichokes are cooked is astringent and has an unpleasant taste. Don't save it for your Hauser Broth.

ASPARAGUS

Wash the stalks under running water. Cut off all of the stem which is hard and woody. If the asparagus is very sandy, scrape the large scales from the stalks, taking care not to bruise or knock off the tips. Tie the stalks together in bunches casy to handle with white cotton string. Place the bunches stem end down in the bottom of a double boiler containing 2 inches of boiling water or Hauser Broth. Cover with the upper part of the double boiler, inverted, and cook 12-20 minutes, until tender. Add salt just before removing from the heat. Lift the bunches from the liquid, remove the string, and dress with melted butter or Hollandaise sauce.

STRING BEANS

Young tender green or yellow beans are shredded lengthwise and placed in a heavy, hot cooking utensil. Cover the bottom with hot broth and keep the utensil tightly covered. Cook for about 8 minutes. When tender, add a bit of vegetable salt and some butter or vegetable oil.

BEETS, CARROTS, AND TURNIPS

Select young vegetables. Thoroughly wash but do not peel. Shred on a medium shredder blade. Use a heavy pan, small enough so the vegetables will fill it. Heat the pan and put 2 or 3 tablespoonfuls of water—better still, Hauser Broth—in the bottom. Add the shredded vegetable when the liquid is steaming. Cover tightly to keep in the steam and short-cook 5–10 minutes, depending on the quantity you are cooking. Shake occasionally to prevent sticking.

As soon as the shreds are done, add some vegetable salt and a

lump of butter or a bit of vegetable oil.

BROCCOLI

Discard the largest and heaviest leaves and any woody part of the stem. Separate the flowers into portions for serving and wash well. Tie into bunches with white cotton string. Split the stems lengthwise to make them cook faster and place the bunches stem down in the bottom of a double boiler containing 3 inches of boiling Hauser Broth. When the broth reaches a rolling boil again, invert the top of the double boiler over it as a cover and cook 15–30 minutes, until tender. Add salt just before removing from the fire. Lift the bunches from the broth, remove the string, and dress with butter or Hollandaise sauce.

BRUSSELS SPROUTS

Remove any wilted stems and leaves. Cut into quarters and wash well. Soaking is not necessary and destroys valuable vitamins. Drop the quartered sprouts into enough boiling Hauser Broth to cover and add I teaspoonful of minced onion to I quart of sprouts. Cook 8–10 minutes with the pot uncovered. Add salt and 2 tablespoonfuls of minced parsley just before removing from the fire. Dress with butter, lemon butter, or thin cream.

CABBAGE

White or red cabbage contains the greatest food value raw. However, it is permissible to prepare cabbage short-cooked. Shred and short-cook for 2-5 minutes, in either butter or oil. In reality, this is a hot raw salad, and is easily digested, especially if a bit of lemon juice is sprinkled over the cabbage after heating. Adding a bit of cream to the cabbage makes a welcome change.

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RED CABBAGE AND APPLES

3 cups finely shredded red cabbage 2 cups sliced tart apples 3 cups boiling water 3 tablespoonfuls Barbados or brown sugar
 1 teaspoonful vegetable salt
 3 tablespoonfuls lemon juice

Combine the cabbage, apples, and water. Simmer uncovered over medium heat 10–15 minutes, until just tender. Put a piece of stale bread over the top of the cabbage to prevent the odour from spreading. Add the salt, sugar, and lemon juice just before removing from the fire. Serve in individual dishes with a dab of butter if desired.

CARROTS

Carrots retain most of their good qualities when cooked in the new manner, but they are most healthful when eaten raw. Never peel the carrots, but wash them with a stiff brush and shred them. Add just a few tablespoonfuls of Hauser Broth to start the steam. Cook slowly about 5 minutes and season with a bit of vegetable salt.

Delicious shredded carrots are prepared by melting butter over a slow fire, stirring in the shredded carrots, and letting them cook about 5 minutes. Season with a bit of vegetable salt and sprinkle some finely chopped parsley over the carrots before serving.

CARROTS AND TURNIPS

Shred equal parts of carrots and turnips and cook as above. When turnips are young and tender, they should not be peeled. Use a medium shredder. This combination is delicious.

BAKED CAULIFLOWER

Short-cook shredded cauliflower. Place in a baking dish with alternate layers of freshly grated cheese. Cover the top with cheese and a few lumps of butter, and brown under a flame for just a few minutes. You will find this to be a delicious dish, and it does not require more than about 10 minutes of actual cooking time.

LEMON CAULIFLOWER

Short-cook the cauliflower, then cool. Pour over it French dressing to which has been added I tablespoonful of minced parsley and I tablespoonful of minced chives. Let stand in the refrigerator at least an hour. Serve with roasts or steaks.

CORN ON THE COB

Corn should be freshly picked—the fresher the better. Select well-filled ears with fresh green husks. The kernels should be soft and milky; if they are hard and glazed-looking the corn is too old. Remove the husks, silk, and stem ends, and the unfilled tips if necessary. Place in boiling salted water to cover. Cook 6–10 minutes. Add a bit of marjoram to the water for improved flavour. If the corn is old, a little sugar in the water will help. Two table-spoonfuls of milk or the juice of half a lemon will keep its colour.

CORN OFF THE COB

Select young, fresh-picked corn. Husk and score each row of kernels and scrape from the cob with a sharp knife. Place this pulp in the top of a double boiler. Add a few tablespoonfuls of water and season with butter. Cook in the double boiler until the corn is heated through. Just a pinch of marjoram gives it a lift.

PEAS

Wash the pods before shelling the peas. Shell and put the pods through a juice extractor. Simmer the peas in the pea-pod juice over low heat for 5 minutes. Season with sweet cream and vegetable salt after you turn off the heat. Thyme improves peas.

SPINACH

Remove all dead, crushed leaves before wetting the spinach. After you have removed the undesirable parts, put the spinach into a large pan of cold water and let it stand a few minutes to loosen the sand. Allow water to run through it until it is clean. Spinach contains an abundance of water and will always cook in its own juice. Shred large leaves with scissors. Place these shredded leaves in a hot cooking utensil. No water is needed. When leaves are thoroughly wilted (usually 3 minutes), add a bit of vegetable salt and butter or vegetable oil. Serve piping hot. A bit of onion, horse-radish, or rosemary improves spinach.

Another good way to prepare spinach is to shred it and add it to a pan in which a few finely chopped onions have been cooked for a minute or two. Short-cook the spinach for about 4 minutes;

add butter and a bit of vegetable salt. For variety a bit of sweet cream may be added instead of butter, but the flame must be turned off before the cream is added to avoid curdling.

Do not make the preparation of this important vegetable a drudgery. Spinach can be prepared deliciously and easily in many ways. Grind it through a coarse food chopper and short-cook 4 minutes in butter. Add some thoroughly beaten eggs and scramble.

FRENCH-FRIED VEGETABLES

Many an overzealous health enthusiast deprives himself of the pleasure of having French-fried vegetables occasionally. It is true that food fried in the ordinary manner is more difficult to digest; especially if things are fried too hard and where a mixture of fats is used. Pure vegetable fats or oils such as peanut oil, corn oil, cottonseed oil are permissible. But the fats must be pure—that is, no mixture of animal and vegetable fats as in some margarines.

For French-frying in the healthful manner, use pure vegetable fats, and only fry the vegetables until they are a light golden brown and still soft.

I ate some of the most delicious French-fried cauliflower and carrots in the famous Bircher-Benner diet sanatorium in Zurich, Switzerland. They surprise you there every once in a while with some delicious French-fried vegetables. This cuts the monotony of some rigid diets.

So the next time you have a yen for delicious French-fried vegetables, try these. Remember to use only pure vegetable fats. Have a thermometer handy to watch the heat, or your vegetables will shrivel away to nothing. When your vegetables are still piping hot, sprinkle a bit of vegetable salt over them and serve at once.

FRENCH-FRIED CARROTS

Cut unpeeled scraped carrots into fingers. Fry in pure vegetable fat at 385° F. for about 8 minutes, or until a golden brown. Drain on absorbent paper and sprinkle with vegetable salt.

FRENCH-FRIED ONION RINGS

Dip onions in batter made with egg and whole-wheat flour. Fry only a few rings at a time to prevent sticking together. Fry in pure vegetable fat at about 340° F. for 6 minutes, or until golden brown and tender. Drain on absorbent paper and sprinkle with vegetable salt. Serve hot.

FRENCH-FRIED PARSNIPS

Cut chilled parsnips and fry in deep vegetable fat at 300° F. Watch your heat carefully, as parsnips shrivel and burn easily. Fry about 8 minutes and drain, sprinkle with vegetable salt, and serve piping hot.

FRENCH-FRIED POTATOES

Cut unpeeled potatoes about $\frac{1}{8}$ inch thick. When the thermometer reads 360° F. put potatoes into a heated basket. Then raise the heat to about 380° F. After a minute or two cut the heat down to 340° F. If you want potatoes to be nice and brown, be sure to keep the temperature up.

MASHED POTATOES

Steam white potatoes with the jackets on, using only a little water to start the steam. Be sure all the water is absorbed. Peel and mash, then add a large handful of finely chopped greens—parsley, green onions, or chives. Add a lump of butter, some vegetable salt, and hot milk. Beat until fluffy. Adding the shredded vegetables further helps to alkalinize the potatoes and makes them delicious.

Try these in place of the ordinary 'smashed potatoes.'

BAKED POTATOES

Select smooth, evenly shaped potatoes of a mealy variety. Epicure, Snowdrop, Arran Comrade, and Majestic potatoes are good. Scrub clean and rub the skins with butter or oil. Bake in a hot oven (450° F. or more) about 45 minutes. When the potatoes are soft, remove from the oven and cut in half. Scoop out the potato from the shells and mash. Add a large handful of your favourite garden greens, finely chopped—parsley, green onions, chives, or mint.

Add a lump of butter, some vegetable salt, and a little milk. Beat until very fluffy and replace in the shells. Brown in the oven or under the broiler.

IRISH POTATO CRISPS

Scrub the potatoes thoroughly. Cut lengthwise strips ½ inch wide and ½ inch thick. Place on a buttered baking sheet and bake in a very hot oven (500° F.) for a few minutes until they puff up. Serve instead of bread. Delicious on restricted diets.

HASHED BROWN POTATOES

Melt 1 heaping tablespoon of vegetable shortening in a heavy iron frying-pan. Add 2 cups of minced boiled potatoes and ½ cup of minced onion. Season with ½ teaspoonful of vegetable salt and a good dash of paprika. Add 3 tablespoonfuls of milk and cook easily without stirring until browned on the bottom. Fold like an omelet and serve garnished with fresh parsley.

FRIED POTATOES

Scrub and slice thinly 4 medium-sized unpecled potatoes. Place in a heavy frying-pan with 1 heaping tablespoonful of vegetable oil, some minced onion or chives, a little chopped parsley, and vegetable salt to taste. Sauté easily for 15 minutes, or until browned, turning from time to time. Cover and cook slowly another 15 minutes.

IV. Vitamins for Vibrant Health

HOW TO OBTAIN ALL VITAMINS FROM NATURAL FOODS

Today the tendency is to glamourize one or two vitamins and to overlook others which are equally important. Many vitamins exist which are still unknown to us, and some of those known have not been duplicated by chemists. Therefore our best vitamin insurance is to use vital, living foods that contain all the vitamins known and unknown.

Every tiny cell in the body needs vitamins. So let us learn what they are and how we can obtain ample supplies in our daily meals.

VITAMIN A

Vitamin A, which helps to produce beautiful skin, bright eyes, and resistance to infections and diseases, is a colourless substance found only in animal foods such as liver, kidney, butter, cream, and whole milk, but especially in fish liver oils. This vitamin, however, is manufactured in the liver from the yellow colouring matter found in carrots, apricots, cantaloupe, and other yellow foods and in all green foods such as parsley, collards, spinach, beet and turnip tops, and mustard greens. The colouring pigment was first separated from carrots, and was therefore given the name of carotene. The body uses carotene only half as efficiently as it does vitamin A from animal foods, but since green and yellow fruits and vegetables must be generously consumed in any health-building regime, our main supply of this vitamin comes from carotene.

Both vitamin A and carotene dissolve in fat, just as lip and cheek rouge dissolve in the fat of cleansing cream. If a vitamin dissolves in fat, it can be stored in the body because fat can be stored, whereas vitamins that dissolve in water cannot be stored but must be obtained daily. If more vitamin A and carotene are

Vitamins for Vibrant Health

eaten than are needed at any one time, the vitamin A is stored in the liver, kidneys, and lungs; carotene is stored in body fat under the skin, giving the skin a glowing peaches and cream colour which is desirable and enviable. That is why a daily glass of fresh vegetable juice helps to give you that schoolgirl complexion. The stored supply of vitamin A can be called upon at times of dietary need and is of tremendous advantage to health. Since both vitamin A and carotene are efficiently stored for future use, it is impossible to cause harm by taking too much of them.

Scientific tests have shown that the majority of us obtain far too little vitamin A. Even the recommendations of the Food and Nutrition Board of the National Research Council are far too low to produce the degree of health which I want you to obtain. This vitamin is measured in units. Probably at no time during life should one obtain less than 10,000-20,000 units daily. Study the amounts supplied by foods so thoroughly that it becomes automatic for you to estimate the quantity of vitamin A you have each day. One hundred grams of the following foods, or about a scrving when cooked, average 10,000 units. The measures are of raw foods.

beet greens, I cup		broccoli, 1 cup	9,000
kale, 1 cup		spinach, 1 cup	8,400
dandelion greens, 1 cup			7,500
mustard greens, 1 cup	11,000	escarole, ½ head	6,000
turnip tops, 1 cup	11,000		

These intensely green leafy vegetables are so rich, not only in vitamin A but also in vitamins B_2 , K, E, iron, calcium, potassium, magnesium, and many other minerals, that each person should try to have at least one serving daily. Notice how much less carotene is obtained from a serving of the following vegetables:

	,		
carrot, 1 large	7,700	tomato, 1	2,000
green pepper, 1	5,000	watercress, 1 cup	2,000
pumpkin, 1 cup	2,500	green peas, 2/3 cup	2,000
lettuce, $\frac{1}{3}$ head	2,200	asparagus, 6 stalks	1,500
parsley, $rac{1}{4}$ cup	2,200	green beans, 1 cup	1,100

Vitamins for Vibrant Health

The above vegetables are still excellent sources of carotene and should be eaten liberally. If you form the habit of eating carrots or drinking carrot juice daily and cultivate a taste for parsley generously added to salads, sandwiches, and other foods, your vitamin A supply can easily be obtained. The following vegetables average about 600 units in a typical serving:

green lima beans, 3 cup	900	Brussels sprouts, 6	400
dry peas, ½ cup	800	cabbage, I cup	400
yellow corn, ½ cup	560	okra, 1 cup	400

Other vegetables, such as cauliflower, turnips, parsnips, beets, and white potatoes, lack carotene.

Apricots, fresh, canned, and dried, are the vitamin A leader among fruits and are so valuable that every person could profit by eating them throughout the year.

Here are some more vitamin A foods from which you can choose:

apricots, 3		banana, 1	320
prunes, 4		cantaloupe, ½	300
nectarines, 2		raspberries, 1 cup	260
peach, 1 yellow		dried dates, 4	210
muskmelon, $\frac{1}{2}$	590	cherries, ½ cup	200
blackberries, 1 cup	400		

Tangerines, plums, strawberries, water-melon, pineapple, and oranges average only about 100 units per serving. Fruits such as grapefruit, lemons, pears, apples, and cranberries contain either no carotene or too little to consider. Cereals except yellow cornmeal and wheat germ lack vitamin A. Nuts are usually not eaten in sufficient amounts to be good sources although they average about 400 units per cup. Vegetable oils and muscle meats eaten as chops, roasts, and steaks lack vitamin A, as does the muscle meat of chicken, turkey, and rabbit.

Since vitamin A itself is twice as valuable as carotene, every attempt should be made to obtain as much as possible. Liver, which averages 7,000 units in a serving of about four ounces,

should be eaten once or twice each week. Kidney, averaging 1,200 units per serving, and heart, brains, sweetbreads, and pancreas should be served as frequently as possible. Fish averages 150 units of vitamin A per serving, and ocean fish, canned in oil, are sometimes considerably richer. The vitamin A in egg yolk varies with the feed of the chickens, ranging from 500 to 1,200 units per yolk. Market milk averages 3,000 units per quart, although it may drop to 500 units during the winter. Since the vitamin is in the butterfat, skim milk lacks it, and buttermilk contains only half as much as whole milk. Solid cheeses (the colouring is artificial) supply about 700 units in four ounces, but cottage cheese, containing less fat, offers only 50 units per half cup.

Fish liver oils, by far the richest sources of vitamin A, can be obtained in concentrated oils, tablets, or capsules. They are usually adjusted to 5,000 units per dose. High potency capsules and concentrates are available which supply 27,500 units per dose. These are excellent to use in overcoming deficiencies or in safeguarding the health of anyone who is unable to obtain glandular meats and green vegetables. The capsules must, under no circumstances, be used as an excuse for carelessness in choosing health-building foods. Since many people dislike glandular meats and green vegetables, and use pastries for desserts rather than fruits, it is easy to see why the vitamin A needs are often

neglccted.

THE VITAMIN B FAMILY

The vitamins of the B family consist of about eighteen members, eleven of which can be made chemically. These vitamins all dissolve in water just as sugar or salt does. Since water cannot be stored in the body, they cannot be stored but must be obtained daily if health is to be yours. These vitamins are measured not in units but in milligrams and micrograms, or gammas. For example, a fifth of a teaspoonful of sugar weighs a gram. A thousandth of a gram is a milligram. A milligram of sugar would be a few grains the size of a pinhead. A thousandth of a milligram is a microgram, or gamma. To

change micrograms to milligrams, the decimal is moved three places to the left. The labels of vitamin products are often stated in micrograms, or gammas, in order to impress the public; for example, if a tablet of vitamin B_1 contains 3,000 micrograms you are likely to be more impressed than if the label stated that it contained 3 milligrams, although 3,000 micrograms is exactly the same as 3 milligrams.

The best known members of the B family are: vitamin B_1 , or thiamin chloride, which plays an important role in making you energetic and in preventing fatigue; vitamin B_2 , or riboflavin, which helps to keep your skin healthy and your eyes bright; vitamin B_6 , or pyridoxin, which is of great value in keeping your nerves relaxed; nicotinic acid, now called niacin amide, which promotes the health of the skin, the blood, and the digestive tract; and pantothenic acid, which helps to prevent old age changes. These five vitamins are usually supplied in vitamin B tablets, but the vitamin B_6 is furnished in too small amounts to be anything more than a talking point. People using such preparations often believe they are getting all the B vitamins they need. Never, never can such vitamin tablets or capsules take the place of natural, vital foods.

Other members of the vitamin B family, as important as those already mentioned, can best be obtained from natural foods. They consist of para-aminobenzoic acid, important in promoting the normal function of the glands and in preventing grey hair; folic acid, also necessary for retaining the natural colour of hair; inositol, which stimulates the growth of hair; biotin, valuable in energy production and in promoting mental and skin health; cholin, important in keeping the liver healthy and in maintaining normal weight, and adenylic acid, which aids in producing energy. There are still several other B vitamins which are not well understood but are known to be essential to health.

Fortunately, these vitamins largely occur together in natural foods, but the richest sources are foods rarely eaten daily: liver, wheat germ, dried brewers' yeast, rice bran or polishings, and blackstrap molasses. Smaller amounts of the vitamins of the B family occur in all natural, unrefined grains, in nuts, and in dry

beans, soya beans, lentils, and peas. Aside from these sources, individual vitamins are sometimes rich in particular foods. For example, milk and green leafy vegetables are not rich in most of the B vitamins but do contain generous amounts of vitamin B₂, or riboflavin; vegetable oils, especially corn oil and wheat germ oil, are the richest sources of vitamin B₆; brain is the best source of cholin; niacin is supplied by meats; blackstrap molasses appears to be the richest natural source of pantothenic acid and inositol; and folic acid, the one vitamin of the entire group so quickly destroyed by heat that it must be obtained from raw foods, is found in intensely green leaves such as spinach, parsley, watercress, and mustard greens.

Another way to obtain many of the vitamins of the B family is by drinking Bulgarian culture milks such as acidophilus milk and yoghourt. These sour milks contain bacteria which live in the intestinal tract and make, or synthesize, B vitamins for themselves in such quantities that some is left over for their host. A supply of folic acid and biotin, both of which have great effect on health, can largely be obtained by drinking these sour milks. At the end of this book I give a simple way

of preparing yoghourt at home.

The amounts of B vitamins needed depend on the exercise taken, the proportion of muscle weight on the body, and the quantity of food consumed. The vigorous person of large build who eats heartily needs much more than a small, inactive person who eats little. As a rule men require more of the B vitamins than women do, but every person in America, man, woman, or child, could profit by obtaining far more of these vitamins than he does. Largely because of the refining of bread and sugar, and because foods rich in these vitamins are not especially popular, our national diet is woefully deficient in the B family. Fortified breads and flour, from which some thirty vitamins and minerals have been removed and only two-thirds of the vitamin B₁, one-third of the niacin, and one-fourth of the iron put back, in no way substitute for the natural products.

If ideal health is to be maintained, women should have from 3 to 5 milligrams of vitamin B₁ daily and men should have 4 to

7 milligrams, obtained in the form of natural foods which contain all the vitamins of the B family. If capsules or tablets of B vitamins are used, they should be taken in addition to these quantities from natural sources. The following foods supply the entire B family, the amounts being roughly proportional to the quantity of vitamin B₁, which is stated in milligrams:

browers' yeast, powder, 1 tablespoonful	2.5
tablets, 30	2.2
liver, $\frac{1}{4}$ pound	0.2
rice polishings or bran, ‡ cup	1.2
soya beans, dried, cooked, ½ cup	0.2
wheat germ, ½ cup	2.5

These foods are the outstanding sources of all the B vitamins. Pork is rich in vitamin B_1 , containing $o \cdot 8$ milligram per serving, but it does not supply the other B vitamins in corresponding amounts and most of the B_1 is destroyed in the long cooking necessary to make pork a safe food. For years I have insisted that fresh pork has no place in a healthful diet.

Compare the milligrams of vitamin B₁ in the following foods to the sources listed above:

bran flakes, wheat, I cup	0.3
buckwheat, whole, ½ cup	0.6
cereal, whole wheat, 2 cup	0.2
green peas, cooked, ½ cup	0.3
lamb, $\frac{1}{4}$ pound	0.2
milk, whole or skim, 1 quart	0.4
oatmeal, cooked, $\frac{2}{3}$ cup	0.2
rice, brown, cooked, $\frac{2}{3}$ cup	0.2
whole-wheat bread, 4 slices	0.4
whole-wheat flour, 1 cup	0.4

Aside from other cereals and breadstuffs made of whole grains, but not listed here, most of our foods supply less than 0.1 milligram of vitamin B₁ per serving. Unless foods listed here

are caten daily, a person is almost sure to be under-supplied in the vitamins of the B family.

The darkest variety of molasses, sometimes called blackstrap, which is used by bakers in making cookies and gingerbread but not generally sold to the public, is a rich source of most of the vitamins of the B family except vitamin B_1 . It is extremely high in vitamin B_6 , pantothenic acid, and inositol, as well as in iron, copper, calcium, and magnesium. It should be put on one's table as regularly as salt and used as a sugar substitute on cereals, stirred into milk, and eaten instead of jam or jelly.

An adult should have from 3 to 5 milligrams of vitamin B_2 , or riboflavin, daily. The richest sources (given in milligrams) are:

beef liver, 4 pound	2.0
brewers' yeast, 1 tablespoonful	1.0
milk, fresh, yoghourt, or buttermilk, I quart	2.0
wheat germ, $\frac{1}{2}$ cup	0.8

Dry beans and peas, cooked cereals, meats, and intensely green leafy vegetables such as chard and kale average 0.3 milligram per serving. An ample supply of vitamin B_2 is not easy to obtain from the American diet. Scientific studies indicate that a large percentage of our population is deficient in this vitamin.

In order to supply the B vitamins, get acquainted with the inexpensive 'super food,' wheat germ. Use wheat germ daily as a cold cereal, a cooked cereal, or in waffles, hot cakes, muffins, biscuits, pie dough, yeast breads, cookies, or nut breads, mixing it with two-thirds whole-wheat flour. Also add rice bran to products you bake. Buy only whole wheat or soya bean macaroni, spaghetti, and noodles which are sold at stores specializing on health-building foods. Use brown rice rather than the white variety. Eat soya beans baked, and in 'meat' loaves and patties. Serve liver, brain, kidney, heart, pancreas, spleen, and sweetbreads as frequently as you can. Use nut butters as a substitute for jams and jellies. Have blackstrap molasses on the table at each meal. Add it to your beverages, eat it on cereal, and use it in your cooking. Realize that dried

brewers' yeast is a 'super food' which gives you more for your money than any other food you can buy; stir it into water, milk, fruit or vegetable juices and use it daily. If the taste of the powdered yeast is unpleasant, obtain it in tablet form. Develop a taste for Bulgarian culture milk, or yoghourt, and drink a pint or more daily. People who follow these simple rules usually find that they possess more vigour than they knew was possible. To impress upon you the superb qualities of the new and improved brewers' yeast I give you the analysis. As you can see this food contains all the members of the B family, fifteen minerals, and sixteen amino acids.

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VITAMINS	AMINO ACIDS	MINERALS
vitamin B_1	lysine	phosphorus
(thiamin)	tryptophane	potassium
vitamin B ₂	histidine	magnesium
(riboflavin)	phenylalanine	silicon
vitamin B_6	leucine	calcium
(pyridoxine)	methionine	copper
choline	valine	manganese
pantothenic acid	glycine	zinc
nicotinic acid	alanine	aluminium
(niacin)	aspartic acid	sodium
p-aminobenzoic	glutamic acid	iron
acid (paba)	proline	tin
biotin	hydroxproline	boron
(vitamin H)	tyrosine	gold
'filtrate factor'	cystine	silver
	arginine	

VITAMIN C

Vitamin C, or ascorbic acid, plays an important role in preserving and enhancing your looks and vigour and in preventing old age changes. Recent research indicates that vitamin C is especially valuable in building resistance to infections and in preventing allergies and poisoning from various foreign substances which sometimes reach the blood. This vitamin is necessary for the formation of connective tissue which gives

strength and elasticity to cartilage, ligaments, scar tissue, the walls of the blood vessels, and the gelatine-like basis of the bones. The speed of healing of wounds, ulcers, broken bones, and other injuries is in direct proportion to the amount of vitamin C in the diet. The first symptoms of vitamin C deficiency are bleeding gums and bruises, and if you have either of these manifestations, you should immediately increase your intake of this vitamin.

Some vitamin C is found in all fresh, growing fruits and vegetables. Fresh peppers, cabbage, tomatoes, and citrus fruits are the richest sources. Like the B vitamins, vitamin C is measured in milligrams. It cannot be stored in the body but must be obtained daily if vigorous, abundant health is to be maintained. Growing children, below twelve years old, should have 80-150 milligrams of this vitamin daily; adolescent boys and girls, 160-200 milligrams; and adults, 150 or more milligrams daily. These are the amounts required by healthy people. Much larger quantities are needed during infections, fevers, arthritis, and allergies, after tooth extractions, any type of surgery, and when speedier healing is desired.

Study the quantities of vitamin C in the foods listed below, and estimate the amount you have obtained in the last twenty-four hours. If you find you are deficient, add to your diet foods rich in this vitamin and make a point of eating them daily. The juices of vegetables, such as carrot, parsley, or cabbage juice, provided they are freshly squeezed, have the same vitamin C content as the quantity of vegetable from which they were

extracted.

The richest sources of vitamin C, given in milligrams per average servings, are:

bell pepper, 1 green	125	pimiento, I fresh	100
I red	200	orange juice, 8 oz., canned	80
pepper paprika, 1 fresh	125	grapefruit juice, 8 oz.,	
orange juice, 8 oz., fresh	125	canned	70
grapefruitjuice, 80z., fresh	IIO		•

Foods which are also rich sources provided they are eaten raw or short-cooked without water, are as follows:

turnip tops, ½ cup		turnips, 3/4 cup	36
parsley, ‡ cup	60	potato, 1 white	33
cabbage, shredded, 3 cup	50	Brussels sprouts, $\frac{3}{4}$ cup	30
kohlrabi, 1	50	cantaloupe, $\frac{1}{2}$	30
orange, 1	50	carrots, 3	30
spinach, ½ cup	50	mustard greens, ½ cup	30
strawberries, 3/4 cup	50	cauliflower, $\frac{3}{4}$ cup	25
potato, I sweet		lemon juice, ‡ cup	25
grapefruit, ½ large	45	lime juice, ¼ cup	25
pineapple, I cup fresh	38	radishes, 10	25
tomato juice, 8 ounces	38	tangerincs, 2	25

Other foods that are not rich in vitamin C but contribute to the supply are:

dandelion greens, ½ cup	20	cos lettuce, 10 leaves	12
peas, ½ cup, fresh	20	watercress, $\frac{3}{4}$ cup	12
beet greens, ½ cup	18	lettuce, ½ head	II
kale, ½ cup	17	string beans, 3 cup	II
pineapple juice, canned, 8		apricots, 2 fresh	10
ounces	17	banana, 1	IO
raspberrics, 🚦 cup	15	endive stalks, 10	IO
tomato, 1 medium		peach, 1	9
apple, 1 large	14	cclery stalks, 4	8
broccoli, 3 cup	14	apricots, 2 canned	5
cucumber, I	12	peas, $\frac{1}{2}$ cup, canned	5
rhubarb, ½ cup	12	apricots, 2 dried	0

Frozen foods retain most of their vitamin C content provided they are put on to cook before being thawed or are eaten as soon as they are thawed. Dried foods lose their vitamin C, as do most dehydrated foods. Cereals, meat, milk, bread, nuts, dry beans, peas, and lentils lack vitamin C.

This vitamin is more easily destroyed by cooking and canning than any other except folic acid, and one should depend largely on raw foods for the daily supply. If fresh citrus juice is taken at breakfast, raw vegetables or salads served at luncheon and dinner, vegetable juices taken between meals or

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for appetizers, and fresh fruit served for desserts, the vitamin C needs can easily be met.

VITAMIN D

Vitamin D has more to do with the development of harmonious contours of the face and features, of strong white teeth, full, rounded chest, and straight, beautiful legs than any other vitamin. Whether or not your teeth are lost because of decay or pyorrhoea may depend largely on your intake of this vitamin. Vitamin D also helps to relax your nerves because it aids the body in using calcium efficiently. Yet no food generally used contains enough vitamin D to supply the daily needs. It is almost correct to say that foods lack this vitamin, for we are supposed to obtain it from sunshine. Summer cream, egg yolks, butter, and milk may have 5 to 20 units per serving, but at least 1,000 units daily are needed by every person, regardless of age. Vitamin D milk is of two varieties, one containing 135 units per quart, the other 400 units per quart; as the vitamin is in the cream, youngsters should get this milk in its entirety.

The richest sources of vitamin D are fish liver oils: cod liver oil, cod liver oil concentrate, halibut liver oil, or tuna liver oil. These oils are put up in non-fattening capsules and tablets. In this one instance, a vitamin concentrate is superior to natural food. Fish liver oil in some form should be taken daily by every man, woman, and child, especially during the sunless months. The labels on such products should be carefully read, and the amount taken should be enough to supply 1,000 units of vitamin D daily. This vitamin is toxic when taken in amounts greater than 200,000 units daily; since such a wide range exists between that needed to produce health and that which can do harm, there is far more danger of taking too little rather than too much.

Sunlight reaching the earth between the months of June and September and from 10 a.m. to 2 p.m. causes vitamin D to be formed in the oils on the skin. The oil of the skin, however, is largely washed off during bathing, especially when soap is used. Sun bathing is of importance to health, but is of greater value when the skin is lightly covered with a thin coat of vegetable

oil such as peanut or avocado oil. This oil should not be washed off for several hours after the sunbath. If bathing is necessary before that time is passed, avoid the use of soap.

VITAMIN E

There is a vitamin, called vitamin E, which is essential to normal reproduction, normal growth, and the proper functioning of the pituitary gland. When absent from the diets or young animals, it leads to paralysis. Certain types of paralysis in man are now being treated with vitamin E, in some cases with good results.

Evidence is accumulating which indicates that the human diet may lack sufficient vitamin E. One study was made of a group of 52 women who had lost an average of three babies each. When given wheat germ oil, the richest natural source of the vitamin, 38 of them gave birth to healthy infants. In another study of 95 women who had previously lost babies, 80 per cent produced normal children when given vitamin E. In such cases, from one to three capsules of wheat germ oil have usually been given daily throughout the pregnancy. Vitamin E has also been used successfully in the treatment of threatened abortion, and evidence indicates that a lack of this vitamin is a cause of premature births and of deaths at birth.

The amount of vitamin E needed by an expectant mother is not known. It is undoubtedly wise for any woman to include wheat germ daily in her diet months before the birth of the baby, and to use only 100 per cent whole grain breads and cereals during that time. If she has previously lost a child, her physician will no doubt add wheat germ oil to her diet.

Fresh wheat germ is the richest natural source of vitamin E, but it is also found in corn oil, sesame seed oil, soya bean oil, and peanut oil, and occurs in lettuce, tomatoes, carrots, egg yolks, and nuts.

VITAMINS K AND P

The chemical nature of two more vitamins, K and P, is known. Vitamin K is necessary before blood can clot, or coagu-

late. The speed with which clotting takes place has been found to be directly proportional to the amount of vitamin K in the body. The richest sources of vitamin K are green leaves, such as chard, spinach, and kale; carrot tops are particularly rich. Since vitamin K is not harmed by heat or oxygen, the foods can be used either cooked or raw. Although many foods have not been tested, this vitamin appears to be widespread. Vitamin K, like A, D, and E, readily dissolves in fat, and like these vitamins it cannot pass through the intestinal wall unless carried by substances in bile, known as bile salts. Vitamin K appears to be deficient in people where the flow of bile is abnormal, as in jaundice.

Babies are born with a very limited supply of vitamin K. As a result, hæmorrhage in the new-born may occur. Such hæmorrhage may be responsible for much of the infant mortality attributed to birth injuries. Brain hæmorrhage in an infant may result in the lifelong tragedy of spastic paralysis where muscular movements are jerky and unco-ordinated. If the mother is given vitamin K as late as one week before the birth of her child, the baby's blood clots normally, and paralysis and possible death are prevented.

VITAMIN P

Vitamin P also has to do with the prevention of hæmorrhage, but in an entirely different way. When vitamin P is lacking, the walls of the blood vessels become porous and allow the red corpuscles to pass into the tissues. The vitamin also appears to help reduce high blood pressure. A vitamin P extract, valuable in the correction of both high blood pressure and hæmorrhagic diseases, can be prepared by covering chopped or ground lemon peel with water, heating it until almost boiling, and then draining off the water after it has stood for twenty-four hours. Vitamin P was named in honour of paprika, from which it was first extracted. It occurs in various types of green peppers and in citrus juices, although lemon peel is the richest known source.

VITAMINS YET TO BE EXPLORED

There is no doubt that other vitamins exist. Many will be of great importance to health. At present there is evidence, based on animal experiments, of the existence of vitamins which are tentatively named H, I, J, L_2 , M, U, W, and several others. As none of these has been isolated in pure form, the value of each to human health is not yet understood. However, no substance has ever been found to be of value in animal nutrition which has not later proved to be of great value to human beings.

As long as natural foods are used, one is reasonably sure of getting at least some of all of the vitamins, both known and unknown. On the other hand, when foods are refined, the vitamins and minerals are largely discarded. When one considers the many vitamins still unknown and their possible contribution to health, it is easy to see how mistaken people are who believe they can safeguard their health by taking vitamin capsules and eating only the foods their palates dictate. Such capsules contain only a few of the many vitamins now known, and if they are taken, they should be used as a supplement to the very best dict one can possibly obtain.

SALADS

The best way to make sure that every member of your family gets sufficient health protection is to *start* your meal with a salad. Also, it stimulates the appetite and makes the whole meal more delicious.

A COURSE IN SALAD MAKING

The secret of good salads is to select fruits and vegetables which are full of life and sunshine. They should be as young and as freshly picked as possible. They should be crisp, with leaves a rich green from abundant sunlight. Handle them as little as possible in preparation so as to prevent bruising or bleeding, with consequent loss of vital juices.

Care of Salad Materials: Chill salad greens in a tightly covered pan in the refrigerator. When ready to use, wash thoroughly and dry on a clean towel. Parsley is quickly revived by sprinkling with cold water, putting in an airtight jar, and keeping in the refrigerator.

Keep salad mixtures light and fluffy. The best and simplest way to do this is to shred finely the non-juicy vegetables such as carrots, beets, celery root, turnips, cauliflower, squash, etc. Cut juicier vegetables and fruits with a stainless steel knife. Leaves are least bruised when cut with scissors.

If it becomes necessary to revive any prepared salad material, sprinkle it with just enough water to be absorbed. Too much water will leach the valuable minerals out of the plant tissues. Never leave cut vegetables soaking.

To Prevent Loss of Vitamin C: Since vitamin C is lost with exposure to air, slice or dice fruits and vegetables at the last moment before serving. Cut salad greens at the last moment, preferably with scissors.

Things to Remember: When making salads, remember the following points:

- 1. Make them look attractive. Most people eat with their eyes.
- 2. Make them delicious so the digestive juices will be stimulated to flow freely.
- 3. Never serve the same combination twice in the same week. Variety gives spice to your menus.

UNLIMITED VARIETY IN VEGETABLE SALADS

It will be useful to the salad maker to have the various salad materials divided into groups as follows:

Foundation Vegetables: Vegetables having colour, mild flavour, bulk, and juice. They are the best base for blending flavours and textures.

Carrot Celery Celery root

Cabbage—red, white, Savoy Salad greens-lettuce, cos lettuce, chicory, escarole, French endive, etc.

In special salads one of the above vegetables will predominate. But for general use in mixed salads, juice-laden cabbage and celery make an excellent foundation to which other vegetables may be added in varying proportions.

Never discard a bit of salad material unless imperfect or decayed. Use it for soup stock instead. The coarse outer leaves of every salad green make a delicious cooked vegetable; or, if they are too tough, cut with scissors into narrow ribbonlike strips and use in your Hauser Broth. As a rule, the greener the leaf, the greater the content of organic salts.

You will soon learn what basic combinations your family likes especially, and with ingenuity you can serve delicious variations of these combinations that will keep up their interest daily in this most valuable health aid. Once in a while try adding certain highly flavoured ingredients in small quantities. And always use parsley and watercress, for their food value as well as their appearance.

The salad vies with the soup course in possibilities for making left-over vegetables count. Practically any cooked vegetable may be added in small proportions to the raw mixed salad; but string beans, shell beans, soya beans-all dried legumes and potato make a special contribution in flavour

and consistency.

The following salads are favourites with thousands of my students. So long as the salad is fresh and large, you may select one of these or follow your own chemical appetite.

ALL-IN-ONE SALAD

1 medium-sized cabbage.) 2 carrots 1 cup celery 2 young beets

Shred very fine and serve in a nest of lettuce leaves with French dressing.

BRIGHT-EYE SALAD

Select very fresh young green turnip leaves, wash and chill. Serve on a plate with stuffed egg, a slice of raw tomato, and olive-oil dressing.

CABBAGE AND WATERCRESS SALAD

Shred very fine the cabbage and add a bit of onion. Just before serving, add a dressing of two-thirds thick, sour cream and one-third lemon juice with a bit of vegetable salt.

CABBAGE SALAD RUSSE

Shred fine young tender cabbage and add one-third as much chopped watercress. Serve on lettuce with French dressing.

COTTAGE CHEESE SALAD I

½ cup cottage cheese	2 tablespoonfuls chopped green
🛓 cup sliced small radishes	peppe r
½ cup diced celery	Pinch of vegetable salt

Mix the vegetables and chill. Add the cottage cheese to any desired salad dressing and fold this into the mixed vegetables.

COTTAGE CHEESE SALAD II

½ cup cottage cheese	I tablespoonful minced parsley
	Paprika to taste
2 teaspoonfuls minced onions or chives	-

Combine the cheese, salt, onion or chives, and parsley. Pack in a cup of ramekin and chill until firm—half an hour or more. Unmould onto a plate, sprinkle with paprika, and trim with shredded lettuce or cabbage. Pour French dressing over the lettuce and garnish with sliced cucumber and radish if desired.

CAULIFLOWER SALAD

Shred fine a young head of cauliflower and mix with salad dressing. Celery root may be combined with it. Serve on a bed of green leaves.

COMPLEXION SALAD

I cup carrots, finely shredded 8 tablespoonfuls pineapple juice

I cup cabbage, finely shredded 3 cup red apples, diced

I cup celery, finely chopped

Saturate the ingredients with pineapple juice. When cold, arrange on crisp leaves of lettuce or escarole and garnish with sprigs of watercress.

FAMILY SALAD

3 cups finely shredded cabbage I green pepper, chopped

I small onion, chopped 1\frac{1}{2} cups mayonnaise

Combine the chopped vegetables with the mayonnaise. Serve in a large bowl lined with your favourite salad greens.

MIXED VEGETABLE SALAD

Shred coarsely equal parts of young cabbage and celery. To this add chopped cucumber, onion, tomato, and a bit of sweet green pepper. Chill and serve on crisp lettuce leaves with French dressing.

OLIVES ITALIAN

Allow ripe olives to marinate overnight in a small bowl of yellow olive oil to which has been added a clove or two of garlic.

ONE-TWO-THREE SALAD

Shred finely equal parts of carrots, apples, and cabbage. To this add pineapple juice enough to moisten, which makes a delicious non-fattening dressing.

PARTY SALAD

2 teaspoonfuls gelatine } cup cold water

& cup boiling water 3 tablespoonfuls pimento

3 tablespoonfuls raw sugar

1/3 cup cabbage

3 tablespoonfuls lemon juice

§ cup celery

1/2 teaspoonful vegetable salt

Soak the gelatine in the cold water for 5 minutes. Mix the sugar, lemon juice, and salt with the hot water and pour over the gelatine. Stir until the gelatine is thoroughly dissolved. Set aside to cool. When the gelatine begins to thicken, add chopped vegetables. Turn into moulds, chill, and serve on lettuce with olive-oil mayonnaise.

PINEAPPLE AND CABBAGE SALAD

Combine finely shredded young cabbage and unsweetened raw pineapple. For the dressing use unsweetened pineapple juice and a bit of cream cheese.

SALAD SANTÉ

I cup finely shredded cabbage I cup chopped celery I cup finely shredded carrots

1 sweet green pepper, chopped 4 tablespoonfuls French dressing I cup unsweetened pineapple juice

Mix the vegetables with the dressing and pineapple juice and chill. When ready to serve, place on crisp lettuce leaves and garnish with watercress.

SNAPPY SALAD

I cup finely shredded cabbage ½ cup chopped watercress
I cup finely shredded celery 4 tablespoonfuls pineapple fruit-I cup finely chopped apples

juice dressing

Mix the vegetables and marinate in pineapple dressing. Serve on a bed of lettuce. Garnish with small radishes and sprigs of parsley.

STUFFED TOMATOES

Remove the centres from 4 tomatoes, keeping the juice for the dressing. Chop up the centres, ½ cup celery, ½ cup unpecled cucumbers, and a cup radishes. Use also a little garlic and watercress. Fill the tomatoes and garnish. Serve in nests of lettuce.

SUMMER SALAD

Mix equal parts of finely shredded cabbage, sliced tomatoes, and sliced cucumber. Season with lemon juice, a little vegetable salt, and a bit of onion. Serve cold.

TOMATO, CUCUMBER, AND CELERY SALAD

Arrange lettuce hearts and two or three slices of chilled sliced tomato. Coarsely shred equal parts of cucumber and celery and season with chopped green onions. Mix these chopped vegetables with mayonnaise dressing. Serve a large spoonful of this mixture on the tomato. Sprinkle with a bit of paprika.

TURNIP AND CARROT SALAD

Finely shred young turnips and carrots. To equal parts of this add a little chopped celery. Mix and serve in lettuce-heart cups. Add a bit of watercress and serve with French dressing.

CARROT-RAISIN SALAD

Soak $\frac{1}{2}$ cup of washed seeded raisins in $\frac{1}{4}$ cup of lemon juice. When the raisins are plump, combine with $1\frac{1}{2}$ cups of shredded carrots, moisten with mayonnaise, and serve on lettuce leaves or beds of shredded cabbage.

RAW CHEF'S SALAD

2 cups shredded cauliflower

1/2 cup chopped green pepper
1/2 cup chopped watercress

1 teaspoonful chopped onion or onion juice Pinch of vegetable salt

Combine all ingredients and moisten with mayonnaise. Arrange on lettuce leaves and serve with extra mayonnaise.

METCHNIKOFF'S SALAD

Mix equal parts of cottage cheese and shredded carrots. Mix with mayonnaise and a teaspoonful of lemon juice. Serve on beds of chopped or shredded lettuce.

CELERY-ROOT SALAD

4 medium-sized celery roots 1 quart Hauser Broth

🧎 teaspoonful vegetable salt

Scrub and peel the celery roots. Chop up the tops and boil all in Hauser Broth until soft. Then slice the roots thinly and marinate with French dressing. Serve on lettuce and sprinkle with paprika. Be sure you save the broth.

Raw or cooked celery roots make a delicious addition to all sorts of salads.

VEGETABLE GELATINE FROM THE SEA

A species of sea green, sometimes called vegetable gelatine and other times agar-agar, is derived from sea algae and con-

tains iodine. Dried agar-agar swells to many times its normal size when it reaches the intestines, and for that reason is used as a bulk food.

For cooking, agar-agar must first be dissolved in hot water. It can be eaten with cereals, in desserts instead of ordinary gelatine, or alone as a jelly. Powdered agar-agar makes delicious aspic and gelatine salads and desserts. For their low calorie value, agar-agar foods are included in many reducing diets.

 ounce agar-agar I cup cold water

21 or 3 cups boiling water

Soak the agar-agar in the cold water until it is transparent. Drain off this water and pour on the boiling water—2½ cups if you wish to serve the jelly unmoulded, 3 cups if moulded. Let the agar-agar boil until thoroughly dissolved. Strain and add any fruit juice desired as a flavouring. When the jelly begins to set, add chopped fruits or vegetables. Agar-agar is an expensive food, however; psyllium seeds are cheaper and just as valuable.

FRUIT SALADS

You can make delicious mixed raw salads with fresh ripe fruits by giving attention to freshness, texture, taste, and arrangement of the fruits. The choice of fruits which blend well is a matter of individual taste, limited only by what the market affords. The best fruits are always those which are in scason, preferably those ripened in the sun. A combination of no more than four, one of which should be of the citrus group, makes a more palatable mixture than the hodge-podge of more fruits.

Here is a partial list of the variety of materials which may be added to fruits, either as part of the salad or as a garnish, to liven up the mixture:

Mild cheese

Nuts

Shredded rind of orange or lemon

Pimento Watercress Mints-apple, orange, Sweet dried fruits etc.

Crystallized ginger Candied peel Shredded coconut

Some of the best combinations are listed below, and they include the exceptions to the rule that citrus and sweet dried fruits do not combine well.

Apple and mint
Banana and raisins or dates
Orange and ripe banana
Orange and onion
Pear and cream cheese

Pineapple and cream cheese Pineapple and date Pineapple and mint Pineapple and strawberry

Among fruits, orange and apple are basic ingredients. They supply sweet juiciness, crisp substance, and colour. Orange has the added advantage of lending itself to preparation in various shapes—slices, whole or cubed, skinned sections, or small wedges cut across the sections from the core out.

The flavours and textures of fruits are so individual that when any mixture has combined to make a flavoursome blend, the matter of consistency will have been taken care of. The fruit should be prepared in large, neat slices, cubes, wedges, or balls—and with only the sharpest of tools—to avoid crushing or tearing. Include at least one fruit which will give a touch of harmonizing colour, or use as a garnish a few cherries, grapes, berries, or a spoonful of a bright jelly or conserve. Always chill cut fruit and do not mix until just before serving time.

For the sake of health and time, do not pare fruits. Remove only that part of the coating which will peel off. When fruits must be pared before using, give special attention to those like apples and pears which darken on exposure to air. Oxidation will be delayed if the pieces of fruit are covered with acid fruit juices—citrus, pincapple. Oxidation is a visible illustration of what happens to all cut fruit upon exposure to air.

Keep the fruit chilled, and remember that the living values of a fruit start to diminish from the moment it is cut. That is why fruit juices should never be allowed to stand.

FLORIDA SALAD

I quart fresh strawberries

I cup grated coconut

I fresh pineapple or I can pineapple

Cut the pineapple into cubes. Add the coconut to the strawberries and pineapple and mix with French dressing. Serve on crisp lettuce.

GRAPEFRUIT AND STRAWBERRY SALAD

2 grapefruit Honey to taste I pint box strawberries Watercress

Cut the grapefruit in halves. Loosen the pulp from the skin and remove the centre stem after loosening each section on all three sides. Cut a hole in the centre and fill with strawberries. Serve on beds of lettuce and garnish with watercress. Use a bit of honey for sweetening if any is desired.

ORANGE MINT SALAD

Cut 4 large oranges in small pieces, add honey to taste and 2 tablespoonfuls of finely chopped mint. Flavour with 1 tablespoonful of lemon juice mixed with 1 teaspoonful of honey and trim with leaves of fresh mint.

PEACH SALAD

Remove the stones from large freestone peaches. Arrange on lettuce and fill the centres with finely chopped nuts. Top with ripe berries and garnish with fresh mint. Serve with fresh lime juice sweetened with honey.

PEAR SALAD

I cup diced pears

cup diced unpeeled apples
 tablespoonfuls cream dressing

Mix all ingredients thoroughly and serve in nests of lettuce.

TROPICAL SALAD

Arrange alternately on plain or cos lettuce, half-slices of fresh or canned pineapple and sections of oranges. Serve with pineapple fruit-juice dressing.

WALDORF SALAD

2 red-skinned eating apples 2 tablespoonfuls lemon juice 1 cup diced celery description of the second of the se

Dice the apples, leaving the skins on. Sprinkle the lemon juice over them to keep them white, add the celery and chopped nuts, and mix with mayonnaise to which the vegetable salt has been added. Serve in lettuce nests or on beds of shredded salad greens.

CREAM-CHEESE FRUIT SALAD

Take a 3-ounce package of cream cheese and divide it into about 6 parts. Shape each piece into a ball and roll it in minced parsley. Pile the balls in the hollows of pear or peach halves or canned pineapple slices. Arrange in nests of lettuce leaves or on beds of shredded cabbage. Serve French dressing in a separate dish.

SIMPLE SALAD COMBINATIONS

Salads offer unlimited opportunities of creative approach, but some of the simpler mixtures have been found to excel in certain definite proportions. Here are a few suggestions:

Apple and parsnip Cabbage, watercress, and raisin Carrot, apple, and raisin Carrot and pineapple—equal parts Celery and apple with dates or figs, or raisins and nuts Cooked peas, carrots, and celery Head lettuce, escarole, and French endive Tomatoes, green peppers, parsley, and onions Apples, cabbage, celery, and fresh mint Cucumber, artichokes, radishes, and watercress Carrots, celery root, and watercress Shredded red cabbage and red apples Shredded young beets, green peas, and onions Shredded cos lettuce, grated cauliflower, and radishes Shredded carrots, green peppers, parsley, and celery Young spinach, cabbage, and watercress

Shredded fresh or unswectened canned pineapple, red cabbage, and parsley

Thinly sliced Spanish onion, chicory, and spinach Green apples, radishes, and watercress Cucumbers, tomatoes, and young green peas Chopped endive, sliced beets, and watercress Cabbage, carrots, celery, and sweet peppers

FRUITS AND FRUIT DESSERTS

How to Store Fruit: All fruit should be purchased in small quantities, as fresh as possible. But when you have to keep fruits for a day or so, store them in a cool dry place, not in the refrigerator, spread out so the individual pieces do not touch each other. Never pile up soft fruits—spread them out flat on a plate. Handle fruit as little as possible and leave wrapped fruit in its wrappers until you are ready to use it.

Chill fruit in the refrigerator only just before serving, but bananas should never be chilled. Fruit juices, you remember (see page 93), should be squeezed at the last moment. Cut-up fruits should be cut as late as possible to prevent loss of vitamins.

To Prevent Discoloration: Fruits which turn dark upon exposure to air—apples, peaches, etc.—can be kept their own fresh colour by dipping in a tart fruit juice such as orange, grape-fruit, or pineapple juice.

FRENCH STEWED FRUIT

Use any soft fruits or berries. Place in a saucepan and cover with cold water. Sweeten to taste with honey—orange-blossom honey is delicious for this. Bring to the boil and remove immediately from the heat. This method takes only a few minutes and does not destroy the natural colour or flavour of the fruit.

The secret of a really delicious compôte de fruits—a mixture of stewed fruits as prepared in Paris—is to cook each fruit separately.

Do not mix them until you are ready to serve them.

On a famous beauty farm in Maine French stewed fruits were served several times a week during my Elimination Diet and were extremely popular with the spoiled rich ladies.

STEWED DRIED FRUITS

Wash the fruit, cover it with warm water, and add honey to taste. Do not cook, but let soak overnight. Fruit prepared this way will look and taste like fresh fruit. A few drops of lemon or orange juice give additional flavour.

ALMOND APPLES

4 red-skinned cooking apples
2½ cups boiling water
1 cup honey

Shredded lemon or orange peel to taste 20 blanched almonds

Pare the apples without removing the stems and save the peelings. Have the water boiling in a pan shaped so the apples can float—a bowl-shaped vessel is best. Drop the apples into the water and boil gently, turning the apples often, until they are nearly soft. Remove the apples and add the peelings. Cook them for about to minutes and strain, pressing out all the juice. Discard the peels and save the apple liquor—there should be about 2 cups. Add the honey and the orange or lemon peel. Bring to the boil again, add the apples, and simmer until transparent. Do not let the water boil. Then transfer the apples to a baking pan and stick 5 almonds into the outer edge of the stem end of each apple. Cover the bottom of the pan with apple liquor and bake in a moderate oven (375° F.) until the almonds are a rich brown—10–15 minutes. Baste frequently with the syrup while baking. Serve cold with cream.

Preparation: 10-15 minutes.

4 servings.

LEMON APPLE SLICES

2 large apples Juice of ½ lemon 2 tablespoonfuls honey 2 teaspoonfuls butter

Cut the apples in slices about § inch thick. Arrange the slices in a buttered baking dish large enough so that you need only 3 or 4 layers. Add the lemon juice and honey and dot with the butter. Bake in a moderate oven (350° F.) about 30 minutes, until the slices are tender. Serve hot or cold with sweetened whipped cream.

Preparation: 5-10 minutes.

3 servings.

HONEY APPLES

Core apples and put them in a baking pan, adding a little water. Put a piece of butter in the centre of cach, fill with honey, and top with a dash of cinnamon. Bake in a moderate oven (350° F.), basting occasionally with the juice formed in the pan, until the apples are tender but not mushy—about 35 minutes. Delicious when cooked this way.

FIVE-MINUTE APPLESAUCE

Melt some butter in a heavy frying-pan as carefully as you would for scrambled eggs. When the butter is hot but still golden, not browned, throw in shredded unpeeled apples. Heat them through, turn them over once, and you will have an applesauce fit for kings and gods. For additional flavour, add honey to taste.

BAKED BANANAS

Peel 6 large ripe bananas, split in half, and place in a shallow baking dish. Mix 1 tablespoonful of melted butter, \(\frac{1}{3}\) cup of unrefined brown sugar, and 2 tablespoonfuls of lemon or lime juice. Pour over the bananas and keep on basting. Bake 20 minutes in a slow oven (300° F.). For extra flavour and elegance, sprinkle with shredded coconut.

FAVOURITE DESSERT

Fresh raspberries, strawberries, blackberries, loganberries—in fact, all berries—taste like gifts from the gods when sprinkled with honey and shredded coconut.

My favourite dessert is a large bowl full of fresh berries sprinkled with orange-blossom honey, and for special occasions the berries are arranged in layers; between each layer of berries is a layer of shredded coconut.

FRUIT JELLY

Any fruit juice can be used as a base for fruit jelly except fresh pineapple. Use r tablespoonful of granulated gelatine soaked in $\frac{1}{2}$ cup of cold water to r_4^3 cups liquid. Combine diced fruit with the jelly up to an equal quantity.

BAKED RHUBARB WITH FRUIT

₹ pound rhubarb
 ₹ cup water
 ₹ cup seeded raisins, chopped fine
 ½ cup quartered strawberries

Cut the rhubarb, unpeeled, into 1-inch pieces. Pour boiling water over it and let stand 10 minutes, then drain. This is to reduce the oxalic-acid content of the rhubarb. Put the rhubarb in a buttered baking dish, add the raisins and the $\frac{1}{6}$ cup of water. Cover and bake in a moderate oven (350° F.) until tender—about 25 minutes. Remove from the oven and add the strawberries while the rhubarb is still piping hot. Replace the cover and cool before serving. Serve with a mixture of thick buttermilk and heavy cream.

If preferred, cook in a double boiler instead of baking.

Preparation: 15-20 minutes.

3 servings.

ONE-TWO-THREE DESSERT

Soak in warm water overnight a handful of dried apricots, a handful of raisins, and a handful of prunes with 1 tablespoonful of honey. This makes an excellent iron-rich breakfast dish as well as dessert.

COCONUT DATE PUDDING

1 cup vater
1 cup finely shredded fresh coconut
1 cup water
1 cup water
1 cup water
1 cup water
2 cup finely shredded fresh coconut
3 cap water
3 cup water
6 cap water
6 cap water
7 cup water
7 cup water
8 cap water
8 cap water
9 cap water

Cut the dates lengthwise in quarters. Arrange half of them on the bottom of a buttered baking dish. Spread half the shredded coconut on top, make another layer of dates, then a layer of coconut. Beat the egg into the water and pour over the dish. Sprinkle with salt, cover, and bake in a slow oven (300° F.) until the dates are very soft—about 50 minutes. Sprinkle the top with a bit of grated orange rind, cool, and serve with whipped cream.

Preparation: 10-15 minutes.

4 servings.

DRIED FRUIT AND NUT PUDDING

½ cup fruit purée ¾ cup ground nuts 2 egg whites 1½ tablespoonfuls honey
½ teaspoonful vegetable salt
Lemon juice and rind to taste

Make the purée from dried fruits soaked overnight in warm water. Mix the ground nuts with the fruit. Beat the egg white with the salt until stiff but not dry. Beat in the honey by degrees and fold in the fruit mixture. Butter the top of a 1-quart double boiler and turn the pudding into it. Cook over boiling water until the centre is set—about 1 hour. Turn out of the pan and serve hot or cold with cream or the sweetened juice of fruit.

Prunes and Brazil nuts, apricots and pecans are two good combinations.

If preferred, turn the pudding into a buttered baking dish, set the dish in a pan of hot water, and bake in a slow oven (300° F.) for 45 minutes.

CARROT CUSTARD

1 cup finely grated raw carrot 2 eggs, slightly beaten 4 tablespoonfuls honey 2 cups milk

Grated rind of 1 lemon ½ teaspoonful vegetable salt 2 tablespoonfuls melted butter Sprinkling of cinnamon

Combine the ingredients in the order given. Mix thoroughly and pour into a buttered baking dish or individual custard cups. Sprinkle the top with cinnamon. Set the mould in a pan containing hot water. The water should cover the mould or cups up to the level of the custard. Bake in a moderate oven (375° F.) until the custard is set—about half an hour. To test the custard, insert a silver knife in the middle of it. If the knife comes out clean, the custard is done.

Preparation: 10-15 minutes.

4 servings.

APRICOT SOUFFLÉ

§ cup apricot purée

§ egg whites

5 tablespoonfuls unrefined brown sugar Pinch of salt

To make the apricot purée, soak $\frac{1}{2} - \frac{3}{4}$ pound of sun-dried apricots in warm water overnight. Fresh apricots will not give the same delicate flavour. Press through a sieve or fruit press to purée.

Beat the egg whites until stiff but not dry, beating in the sugar and salt toward the end. Fold into the apricot purée, pile lightly in a buttered baking dish, and bake in a slow oven (300° F.) until the centre is firm—about 45 minutes.

OTHER SOUFFLÉS

Following the recipe for Apricot Soufflé, try other fruit soufflés. Bananas, fresh peaches, crushed pineapple, cranberries, prunes, a combination of dates and applesauce, and fresh strawberries are a few suggestions.

PRUNE WHIP

Soak large sweet-sour prunes in half water and half orange juice for 24 hours. Remove the pits. Sweeten to taste with honey. Mash and fold into whipped cream, I cup of whipped cream to 2 cups of prunes. Top with finely chopped pecans or walnuts.

This is also an excellent filling for continental pie shells.

PASADENA APRICOT WHIP

Wash dried apricots thoroughly. Soak for 24 hours in water or orange juice until the apricots are large and plump. Swecten to taste with orange-blossom honey and fold into whipped cream, 2 cups of apricots to 1 cup of whipped cream. This is also superb when frozen.

APPLE FOAM

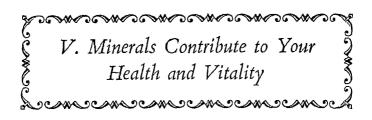
2 tart apples 2 egg whites

½ teaspoonful grated lemon or orange 2 tablespoonfuls honey
rind

Shred the unpeeled apples on a fine shredder. Add the rind. Beat the egg whites until stiff but not dry, then slowly beat in the honey. Fold in the shredded apple. Pile lightly in individual glasses, chill thoroughly, and serve with a bright garnish such as cranberry relish or currant jelly.

Preparation: 10-15 minutes.

4 servings.



FOODS CONTAINING CALCIUM, PHOSPHORUS, IRON, IODINE, AND OTHER MINERALS

Many minerals are needed by the human body in order to give you health and zest for life. Minerals are certainly as important to us as are the vitamins, yet minerals are overlooked, neglected, and their value underestimated. Minerals help to maintain in the body the amount of water necessary to the life processes. They help draw chemical substances into and out of the cells. They keep blood and tissue fluid from becoming either too acid or too alkaline. They influence the secretion of glands and are important in sending messages through the nervous system. They help set up conditions responsible for the irritability and contractility of muscle and tissue, and they have many other functions too numerous to mention.

CALCIUM AND PHOSPHORUS—ESPECIALLY NEEDED

Calcium and phosphorus are needed in larger quantities than other minerals, and their contribution to health must be realized by all who wish to obtain maximum vigour. These minerals are largely used in the body to give hardness to the teeth and bones. If an insufficient amount of calcium and phosphorus is given during the period of growth, the bones and teeth are poorly formed and are often soft and porous. Such bones break easily, and such teeth lack resistance to decay. Inadequate amounts of these minerals cause children's growth to become stunted. Often the parents of such children have

had inadequate diets during their own growth period, and thus they themselves are not properly developed. In this case the lack of development on the part of the children is mistakenly said to be hereditary, and the inadequate diet is thus lightly excused.

Between the years from twelve to sixteen comes a period of rapid development. The bones are growing especially rapidly and need large amounts of calcium and phosphorus. The teeth, though still absorbing minerals, need them to a lesser extent than do the bones. If the diet at this time is not adequate, the bones 'steal' the minerals from the teeth. The inside of the teeth is thus weakened, and a period of rampant tooth decay follows which could be avoided if the diet were adequate.

A similar condition exists during pregnancy when the developing baby needs calcium and phosphorus for its bones. Though both mother and child have great need of these minerals, the child's need is now the more urgent. The minerals are therefore 'stolen' from the mother's teeth and bones. Thus unwise mothers lose not merely the proverbial one but an average of two teeth for every pregnancy. These teeth could easily be saved.

Although 99 per cent of the calcium in the body is found in the bones and teeth, the remaining I per cent plays an important role in regulating certain physiological functions. Tiny particles of calcium, known as ions, aid in the transmission of nerve messages. Adequate calcium helps the nerves to be steady and relaxed. Conversely, a calcium lack leads to a tenseness and irritability of the nerves. The child who is growing rapidly and whose bones take the body's calcium supply is frequently nervous and irritable. We see this nervousness indicated by temper tantrums, unpleasant disposition, chewing of fingernails, restlessness in sleeping, and perhaps bed-wetting. Nervous children cry easily. Yet rarely does the mother connect this 'bad disposition' with her failure to see that the child's calcium intake is high.

The calcium-deficient adult is inclined to be high-strung, quick tempered, grouchy, irritable, and has a feeling of tenseness and uneasiness. At work he makes frequent mistakes, and

wastes his energy in undirected movements. Such nervousness allows the muscles to be tense and so quickly results in fatigue as to be its major cause. Calmness and stability conserve both mental and physical energies. A lack of calcium also prevents a person from sleeping soundly, or he may awake easily and lie awake long hours during the night, brooding over the probable fatigue during the coming day. Needless dollars are spent each year by such persons for harmful sleeping powders and tablets. If the influence of calcium were appreciated, housewives would serve more calcium-bearing foods as a means of increasing efficiency, peace, and happiness in the family.

Muscular cramps result from a lack of calcium. They often occur in the leg muscles of rapidly growing children whose bones are demanding large supplies of minerals. Abdominal cramps during menstruation are often caused by a decrease in blood calcium. This period is frequently accompanied by extreme nervousness, mental depression, headaches, and other symptoms of calcium deficiency. A generous supply of calcium and vitamin D added to the diet at this time will usually cause

these symptoms to disappear.

Calcium is necessary for the clotting of blood, and a lack can lead to serious hæmorrhages following the extraction of teeth, an accident, or during an operation. In treating hæmorrhages of any type, calcium and vitamin D, necessary for the efficient absorption of calcium into the blood, should be liberally taken.

Milk, whole or skim, sweet or sour, canned or powdered, buttermilk, cheese, and foods made of milk or cheese are the best sources of calcium.

Calcium and phosphorus are deposited in the bones and teeth in chemical combination with each other. If one is lacking, there is nothing for the other to combine with; therefore one without the other is of little value. Phosphorus is found in meats, dairy products, all foods made from grain, and many vegetables, whereas milk and cheese are the best sources of calcium. The diet of a person who does not use dairy products is high in phosphorus and low in calcium. The phosphorus does not have enough calcium to combine with; hence it cannot be used and is lost in the urine.

Aside from the phosphorus used in building and maintaining bones and teeth, this mineral is a part of each of the billions of cells in the body. It plays an important role in energy production. It is a constituent of all glandular secretions and all body fluids. Animals die more quickly from lack of phosphorus than from any other mineral deficiency.

Vitamin D is necessary in order that calcium and phosphorus may be used normally. It aids in the absorption of both minerals into the blood and in depositing them in the bones and teeth. Infants particularly are unable to absorb calcium and phosphorus unless vitamin D is supplied. As children grow older, there is an increase in the amount of calcium and phosphorus reaching the blood in the absence of vitamin D. At no time during life, however, are these minerals efficiently absorbed or used by the body without vitamin D. I have studied the diets of thousands of people and I find that very few get more than 100 units of vitamin D daily, when at least 1,000 units should be had. It is little wonder that people are nervous, tired, suffer from insomnia, and must resort to artificial teeth.

Every day, regardless of the amount of calcium and phosphorus eaten, what we might call 'worn-out' calcium and phosphorus are excreted in the urine and fæces. Year in and year out, this loss goes on. If you are not eating enough of these minerals to supply the nerves, muscles, and body fluids, they must be taken from the bones and teeth. On the other hand, if an excess of both calcium and phosphorus is obtained, it is stored in the ends of the long bones. Whenever there is a shortage of these minerals, the stored calcium and phosphorus are drawn upon. As calcium-rich foods are digested and absorbed into the blood, the minerals flow into the bones. When the diet is neglected, the minerals flow out. This continuous changing goes on as long as life itself.

One gram of calcium daily and slightly more than I gram of phosphorus are considered the standard both for children and adults who really desire radiant health. Since phosphorus is so widespread there is little danger of it lacking. This amount of calcium, however, is very difficult to obtain. It can be furnished

by one quart of milk, whether whole, skim, buttermilk, or yoghourt; a half cup of cottage cheese; or one-fourth cup of blackstrap molasses. No other foods except milk for children, cheese and yoghourt for adults, supplemented with black molasses, can supply the amount of calcium needed daily to maintain health. At the end of this chapter I tell you how to make your own cottage cheese.

Each day of life, every man, woman, and child should use these foods. Yoghourt and sour milks are preferable to fresh milk. Cheese in some form can be served daily. In addition, it is often wise, during the first months of pregnancy, times of rapid growth, menstrual periods, as a correction for nervousness, and before operations of any kind, to take concentrated calcium such as dicalcium phosphate. This calcium is sold in both tablet and powder form. Since calcium dissolves only in acids, it should be taken in or with citrus juice. The amount desirable varies with each person. Usually about a fourth teaspoonful of powdered dicalcium phosphate or two or four tablets daily are sufficient. Small amounts, taken frequently, can be absorbed more completely than a larger amount taken at one time. If such a calcium concentrate is used, it should also contain vitamin D to ensure normal assimilation.

ADD IRON TO YOUR DIET

Another mineral, iron, is necessary to enable the blood to carry oxygen throughout the body, and is of great value in helping to remove carbon dioxide from the tissues. In an imaginary cube of blood I cubic millimetre in size there are normally over 5,000,000 red corpuscles, or red blood cells. The number of red corpuscles, which varies widely with individuals depending upon their degree of health, is spoken of as the blood count. Aside from having sufficient red corpuscles, each blood cell must contain a normal amount of hæmoglobin, or red colouring material, which actually carries the oxygen.

Anæmia is a condition in which the body either fails to produce enough red corpuscles, or the hæmoglobin is below normal in amount, hence pale in colour. Both abnormalities

may exist at once: there may be too few red corpuscles as well as too little hæmoglobin. In this case, sufficient oxygen cannot be carried to the cells throughout the body nor can carbon dioxide be completely removed. As a result, the anæmic person is tired, listless, and lacking in pep, endurance, and colour. He cannot think clearly or quickly, and he frequently forgets what he sets out to do. Although there are many causes of anæmia, the most common cause is a lack of iron in the diet. Numerous studies have been made which reveal that as many as 90 per cent of the women and children in America are anæmic. If you dislike being caught without make-up, it is a safe guess that you are anæmic and need more iron in your diet.

Iron is used more efficiently by the body in building blood if a trace of copper is present. Fortunately copper and iron occur together in foods. The richest sources are: black molasses, liver, nuts, apricots, chocolate, wheat bran, and wheat germ. The supply of iron and copper can be greatly increased by substituting black molasses and peanuts for candy, nut butters for jam and jellies, and using only whole-grain breads and cereals. In fact, the greatest single cause of the widespread anæmia in America is the discarding of iron in the refining of breadstuffs and sugar, and only a fourth of the iron removed is replaced in fortified flour.

It has been found that only about 50 per cent of the iron in foods is freed during digestion and can pass from the intestines into the blood. The other 50 per cent is lost in the fæces. It is obvious that even though the dict may contain ample iron, if this iron does not reach the blood and bone marrow, anæmia can exist. The quantity of iron in foods is less important than the actual amount which can be used by the body.

Although fruits are not rich in iron, most of the iron they do contain reaches the bloodstream. Apricots have been found to be particularly valuable for correcting anæmia. The iron from peanuts, celery, and carrots is well absorbed, as is that from black molasses. Meats are rich sources of iron, but only the following percentages are absorbed: 15 from ham; 50 from muscle meats; 70 from liver; and 80 from heart. Soya beans are rich in iron, of which 80 per cent reaches the blood. It has

been found that of single foods ordinarily used, liver produces the most hæmoglobin, kidney second, apricots third, and eggs fourth. Many foods which contain as much or more iron fail to be good blood builders.

Even after iron from food is freed during digestion, it may still not reach the bloodstream. Iron is dissolved only in acid, and unless it is dissolved it cannot pass through the intestinal walls. Normally the hydrochloric acid produced by a healthy stomach dissolves iron, but in many persons, especially those lacking the vitamins of the B family and those addicted to taking soda, sufficient acid is not present, and the end result is the same as if no iron were supplied by the diet.

About 15 milligrams of iron are needed daily by an adult. In order to make up for iron losses during normal menstruation, girls and women should obtain at least 2 extra milligrams of iron daily, bringing the total to 17 milligrams daily. During pregnancy 20 milligrams of iron should be taken daily. Formerly about half these amounts were considered adequate, and small quantities are still recommended by persons whose ideals of health are not high.

It is by no means easy to plan a diet that supplies adequate iron. Average servings of the foods listed below furnish approximately the following amounts of iron, given in milligrams:

apricots, 4 halves	3	muscle meat, fish or fowl	3
banana, I large	2	nuts, $\frac{1}{2}$ cup	3
beet tops, ½ cup	4	prunes, 4	3
dandelion greens, ½ cup	3	raisins, 🖁 cup	3
dates, dried, 4	4	soya-bean bread, I slice	2.5
eggs, 2	3	spinach, ½ cup	4
kidney	4	turnip greens, ½ cup	9
liver	8	wheat bran	4
molasses, blackstrap		wheat germ, ½ cup	8
1 tablespoon,	9	whole-wheat bread, I slice	I
molasses, dark	2		

Vegetables and fruits not listed average less than a half milligram of iron per serving.

There are many iron salts on the market, such as ferrous mucate and ferrous chloride, which are put up in tablets. These are sold inexpensively and are of great value in helping or preventing anæmias when it is impossible to obtain enough iron from food sources. When such a salt is taken, every effort should be made to keep the diet rich in iron, and the tablets should not be used as an excuse for bad food habits. Deficiencies of iodine and calcium and of vitamins A, C, and those of the B family, particularly of vitamin B₆ and niacin, can also lead to anæmia. Examine yourself carefully before the mirror. If your cheeks, lips, and ears are not sufficiently red to give you a glowing colour of health, see that your diet is adequate in all respects and particularly rich in iron.

A LITTLE IODINE HELPS A LOT

Iodine is essential to health. It forms part of the active substance thyroxine, produced by two small thyroid glands located on either side of the windpipe. The iodine-containing thyroxine not only has a powerful effect on physical and mental development, but gives the body of both the child and the adult its normal verve, its urge for work and play. A lack of iodine causes a corresponding lack of thyroxine and results in decreased stamina, endurance, and general vitality.

A partial lack of iodine causes goitre, an enlargement of the thyroid glands. This enlargement is an attempt by the body to overcome the iodine lack by developing a larger amount of tissue to produce thyroxine and to use more efficiently the small amount of iodine available. In this case, the production of thyroxine is usually normal. Aside from the slight fullness and perhaps a mild pressure in the neck, there may be no other body changes. The seriousness of goitre actually lies in its mildness. Goitre is a danger signal, pointing to possible trouble ahead. Even a slight swelling of the neck should be carefully noticed, and iodine foods used daily thereafter.

Goitre occurs most frequently during adolescence. It is then that the iodine requirements are highest. Goitre is about twice as prevalent among girls as among boys. The disease is particu-

larly common around the Great Lakes, where from 50 to 70 per cent of the girls are afflicted. In the Pacific Northwest about 30 to 40 per cent of the girls suffer from goitre. Yet it has been known for twenty-five years that goitre could be prevented by the continuous use of iodine foods.

Iodine requirements decrease after adolescence. The amount of iodine in the ordinary diet may be enough to allow the goitre to disappear. On the other hand, the goitre may continue to grow or it may stay the same size and start growing later, when the iodine requirements are again increased, as they

are during pregnancy, lactation, and menopause.

Another disease caused by too little iodine is called exophthalmic, or toxic, goitre. It appears to occur in people whose thyroid glands are already weakened because of lack of iodine. In this disease, too much thyroxine is produced and the body engine races. The heart beats too rapidly, and a pulse of 130 or even 180 beats a minute is not unusual. The patient loses weight, is extremely nervous, and suffers from heat; the eyes often become prominent and somewhat protruding. This type of goitre should be supervised by your physician who will no doubt prescribe large amounts of iodine.

In no other condition is diet so extremely important as in exophthalmic goitre. Calories, all vitamins, and all minerals must be given in larger than usual amounts. The need is particularly increased because the body is working at such a high speed that all requirements are much greater than usual. Moreover, food is being forced so quickly through the digestive tract that absorption is incomplete. Good results have been obtained by giving daily to patients with this disease 10 or more milligrams of vitamin B₁ in the form of natural foods, and as much as 200,000 units of vitamin A.

If iodine is almost totally lacking in the mother's diet while the baby is forming, the child can become dwarfed or a cretin. When an almost complete lack of iodine occurs later in life, a condition known as myxædema can result. Such an adult is mentally sluggish and appears to be in a stupor. Both cretinism and myxædema are not unusual in the United States, although a small amount of iodine daily from earliest

development throughout life can completely prevent these conditions.

Many foods completely lack iodine. The amount of iodine in foods grown in this country varies so widely, depending on the quantity of iodine in the soil, that almost no food is a reliable source. The exceptions are ocean fish and sea foods, which are excellent sources. Many of my students are using an iodized vegetable salt which contains organic iodine. They find it a convenient way of getting a small amount of iodine daily.

Many outstanding authorities believe that no salt should be sold other than that to which iodine has been added. Despite the fact that educational campaigns to teach people to buy iodized salt have been carried on for twenty years, surveys have revealed that only about 15 per cent of the people use this salt. It is difficult to understand such carelessness, stupidity, and disinterest in health.

Since iodine is needed in larger quantities during early child-hood, puberty, pregnancy, lactation, and menopause, special attention should be given to supplying the needs at these times. The iodine requirement for developing babics is about three times that of an adult. If the mother is nursing the baby and is using iodine-bearing foods generously, the iodine need will be supplied.

Much of the money spent every year for the surgical removal of goitres could have been saved by small foresight at no extra cost. Every year millions of people who have not obtained a normal supply of iodine pay for their neglect through a lack of mental and physical efficiency and alertness.

POTASSIUM FOODS ARE NECESSARY

Potassium, although abundantly distributed in foods, is sometimes deficient in the diet. Potassium occurs widely in foods, particularly in leafy vegetables and whole grains. However, even a partial deficiency leads to slow growth, constipation, gas distension, and a type of nervous ailment typified by extreme alertness and sleeplessness. The heart beats slowly and irregularly, and the heart muscles become damaged. Potassium

is necessary for the normal contraction of all muscles. For example, in a disease known as familial paralysis the concentration of potassium in the cells is so low that contraction of the muscle is impossible. The paralysis is quickly corrected when potassium is added to the diet.

A group of nineteen children were fed diets low in potassium. All developed nervousness and severe constipation and suffered from gas. While whole-grain breads and cereals and black molasses are extremely rich in potassium, three-fourths of this mineral is lost in refining grains, and white sugar contains none. The extent to which refined foods are used indicates that a lack of potassium is one cause of the widespread constipation, insomnia, nervousness, and indigestion in the country, particularly in people who eat not only refined foods but also few green leafy vegetables which are an excellent source of potassium.

YOU NEED SODIUM AND CHLORINE—ESPECIALLY IN A HEAT WAVE

Both sodium and chlorine are likewise of tremendous importance in the body. For example, chlorine is used in the stomach, in forming hydrochloric acid, so necessary for normal digestion of protein and the solubility of many minerals so that they can be absorbed into the blood. In cases of severe vomiting, as in intestinal obstruction, death may result in a few hours because of the chlorine lost in the form of hydrochloric acid from the stomach. In such a case, life can be saved if ordinary salt solution, supplying chlorine, is given by the physician. Many foods contain sodium and chlorine, and of course salt contains both of these minerals. Excessive amounts of salt should never be taken, but it should never be entirely omitted unless upon the recommendation of a competent nutritionist.

Under normal conditions, a healthy person who eats a reasonably varied diet runs little risk of a deficiency of sodium and chlorine. In extremely hot weather, however, particularly if the air is dry, so much salt can be lost through perspiration

that death may result. Death due to salt deficiency occurred during the first years of work at Boulder Dam and in other engineering projects on the desert. Later, when the cause was understood and special salt tablets were given, there were no more deaths.

In milder forms a lack of sodium and chlorine can cause heat cramps, or heat stroke. This condition is common among people who work in furnace rooms, in mines, or in any surroundings where the temperature is unusually high. Heat stroke is accompanied by nausea, dizziness, general exhaustion, and muscular cramps in the legs, back, and abdomen. Men working under conditions of extreme heat should always be supplied with these special salt tablets and advised to take one with each drink of water.

Probably every person has experienced hot-weather fatigue. Such fatigue is largely due to the loss of salt through perspiration. During very hot weather salty foods such as salted peanuts, popcorn, pretzels, or soya beans can be kept near the drinking water. At least one well-salted food should be served with each meal during hot weather. In addition, the person who perspires freely and must work in the heat is wise to add a pinch of vegetable salt with each glass of water, such salt makes a pleasant drink. Men who work in foundries, around molten metal, the welders, and all others who must work in heat suffer needlessly from fatigue unless salt is given to replace the salt lost in perspiration. This is equally true of people who work and live in the tropics.

THE TRACE MINERALS

A number of elements are spoken of as the trace minerals. Although little is known of them, it appears that some are of great importance to health. For example, when magnesium is not supplied in the diet of experimental animals, they sicken and die. Their hearts become abnormal and beat with extreme rapidity. The blood vessels expand and low blood pressure results. The animals are extremely irritable. Slight noises cause them to go into convulsions which resemble certain types of

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insanity more nearly than that produced by any other means. The blood of people suffering from extreme irritability has been found to be low in magnesium. It is not impossible that extreme irritability and even some types of insanity may be connected with lack of magnesium in the diet. People who have long lived on refined foods and have neglected to eat green vegetables, the richest source, could easily be deficient in this mineral.

Aluminium is found distributed in various parts of the human body and in the bodies of animals which have never eaten foods prepared in aluminium utensils. Whether its presence is accidental or is necessary to health has not yet been determined. Extensive studies have been made of the possibility of aluminium poisoning, but there is no evidence to indicate that aluminium represents any potential danger to health.

Zinc is necessary to the health of experimental animals and in all probability to that of human beings. It is present in human tissues, especially in the thyroid and the sex glands. It is one of the constituents of insulin, which is necessary in the normal utilization of sugar. Liver and milk are the most dependable sources of zinc, but people who avoid these foods might easily be deficient.

Like zinc, cobalt is found in small amounts in most of the organs of the human body. It appears to be particularly related to the development of red corpuscles. In persistent anæmias in people, the giving of cobalt in addition to iron and copper has brought about beneficial results. Liver appears to be the most dependable food supply.

It is known that manganese is necessary to human health, but its exact action is little understood. In animals, lack of manganese appears to interfere with the maternal instinct. Rats on manganese-deficient diets will not suckle their young, nor will normal mother rats adopt the manganese-free young. Manganese is found in green leaves; whole-grain breads and cereals contain about six times the quantity found in the refined products. If only refined foods are eaten, it is probable that the manganese needs of the body may be undersupplied.

There are a number of trace minerals which meagre know-ledge indicates to be essential to health. For example, tin is found in many human tissues, especially in the liver, brain, and thyroid gland. Relatively large amounts of arsenic are found in the liver, and the concentration in the blood varies depending upon glandular activity. Bromine, like arsenic, is best known as a drug and a poison, and yet it is always in human blood. In a certain type of insanity known as manic depressive, the amount of bromine in the blood falls to one-half of the normal quantity and increases only upon recovery from the disease. Mercury is found in the human liver, and nickel is concentrated in the pancreas; even silver occurs in the blood, liver, sex glands, heart, spleen, kidneys, and especially the thyroid and tonsils. However, the functions of these minerals are unknown.

Although a great deal is still to be learned about the exact role of trace minerals in human nutrition, they are undoubtedly of importance. Leafy vegetables, glandular meats, and unrefined breads and cereals should always be included in the diet to fulfil our needs in this respect. Too many people avoid glandular meats. Others persist in choosing white bread instead of whole-grain bread. Most people think they cat quantities of leafy vegetables when they actually eat very few. A diet lacking any of these foods is likely to be so deficient in minerals that poor health results.

Minerals are of tremendous importance to health, and it is impossible to obtain a sufficient supply unless natural unrefined foods are continuously eaten. Health and natural vigour must come from a wise selection of foods and can never be obtained from the corner drug-store.

FISH AND SHELLFISH

FRESHNESS

Fish must be fresh; if not they can be indigestible, even poisonous. You can tell whether a whole fish is fresh by looking at its eyes. They should be bright and bulging. The gills should

be fresh and bright, the flesh firm and elastic enough to spring back when pressed. In boned or filleted fish the general appearance and odour are all you have to go by. The fish should be firm, elastic, moist, and smell fresh.

Fish spoils quickly but will keep a short while if packed in ice or stored in the coldest part of an automatic refrigerator. When your fish comes from the market, wash it well if whole, wipe with a damp cloth if it is cut up. Sprinkle it lightly with vegetable salt, wrap in waxed paper to keep the odour from penetrating other food, and put it immediately into the refrigerator. Salt and smoked fish need not be kept in the refrigerator except in very warm weather.

KINDS OF FISH

Fish are divided into two main classes—scaly fish and shell-fish. The word 'fish' in cookery usually applies only to scaly fish; shell-fish are treated separately. Scaly fish are described as fresh-water or salt-water according to their origin, or as lean or fat according to the amount of fat they contain.

All fresh fish are adapted to all methods of cooking. There is a saying that lean fish are better suited for poaching, steaming, and sauteing; fat fish to grilling and baking; but there are too many exceptions to this rule to make it a good guide.

HOW TO COOK FISH

Fish is very tender and needs careful handling to keep its shape and texture. It should be cooked just until it flakes, never over-cooked. Because it does not have the tough connective tissue of meat, fish cooks in a very short time. Over-cooking will toughen the delicate proteins.

The taste of fish is so delicate that it needs seasonings to bring it out. For that reason fish is one of the best fields for using your knowledge of herbs and for fortifying with parsley and lemon juice. A sprinkling of parsley and a wedge of lemon served on the side is never amiss with fish.

Sherry with Fish: When you have removed sautéed fish from the pan, add I tablespoonful of sherry per portion to the

drippings. Heat slightly and pour over the dish. Or flavour creamed fish and shellfish with the sherry a minute or two before removing from the heat.

GRILLED FISH

Have whole fish split down the middle; have fillets or steaks of large fish cut $\frac{3}{4} - 1$ inch thick. Wash the fish or wipe with a damp cloth. If desired, marinate for an hour in French dressing, then dry

thoroughly before grilling.

Rub lean fish with butter or olive oil, but grill fat fish just as it is. Place skin side down on a well-buttered grill pan if lean fish, a rack if fat. Sprinkle with lemon juice and grill 2 inches from the heat until brown. Turn and grill the other side. It will take 10-15 minutes to cook. Season with vegetable salt and serve with parsley, butter, and lemon.

GRILLED FISH WITH HERBS

Cream minced thyme, fennel, and parsley into a little butter and spread it over the fish before grilling. Other combinations of herbs will come to you also. This is better suited to lean fish than to fat.

BAKED FISH

Split and clean small fish and place on a buttered baking pan. Or use fillets $\frac{3}{4}$ —1 inch thick. Mix vegetable salt, paprika, and onion juice with butter or olive oil and brush over the fish. Bake skin side down in a hot oven (425° F.) 15–25 minutes, until the fish is browned and flakes with a fork. Garnish with lemon wedges and watercress and sprinkle with minced parsley.

SAUTÉED FISH

Wipe fillets or small fish with a damp cloth. Roll in seasoned flour or dip in beaten egg then roll in fine whole-wheat bread-crumbs or wheat germ—some prefer corn meal. In a heavy frying-pan heat a few tablespoonfuls of butter or vegetable shortening or a mixture of the two. Brown the fish over a medium fire, first on one side and then on the other. If the fish are thick, cover the pan for a few minutes to let the centres cook through, but remove the cover several minutes before you finish so the fish will be crisp. Take care not to crowd too many fish into the frying-pan. Results

will be better if the pieces do not touch each other. Serve with tartar or Hollandaise sauce and garnish with parsley and lemon wedges.

FRENCH-FRIED FISH

Prepare the fish as for Sautéed Fish, preferably with the bread-crumbs, wheat-germ, or corn-meal coating. Fry in deep hot fat—never less than 3 inches deep—putting in a few pieces at a time so the fat doesn't cool off too fast. Keep the fat at about 385° F., certainly not above 400° F. Don't put in so many pieces that they touch each other. Remove from the fat and drain on brown paper when the coating is crisp and brown.

SHELLFISH

Richest of all fish in vitamins and minerals are the molluscs, the soft-structured shellfish such as oysters, and scallops. Although they are classed as proteins, actually they supply more protective vitamins and minerals than they do proteins. Oysters and scallops yield large amounts of vitamin C, and quantities of iron and iodine. As long as they are fresh and correctly cooked, molluscs are easily digested. They are low in calories and high in water, which makes them good balance wheels in an otherwise heavy meal.

Shrimp, crabs, and lobsters, the crustaceans, are also good protective foods, supplying vitamins C and G, and also iodine. Shrimps are especially valuable when fortified with peppers, onions, or pimentoes as in Shrimp Creole.

Lobster: Lobster is generally bought alive, although in some markets it comes ready-cooked. Live lobster is bluish green, cooked lobster red. Quick-frozen lobster meat comes raw or cooked depending upon the brand. Canned lobster is cooked. The coral is found in female lobsters only.

Oysters: Oysters come in the shell or already shucked. Shucked oysters should be plump and shiny, the liquor around them fresh-smelling. Quick-frozen oysters come in packages ready for use. Oysters in the shell will be opened at the market if desired. To open them at home, scrub the shells with a brush under running water. Insert a sharp knife between the two

halves of the shell and cut the muscle which holds them together. If the knife will not go in readily, hit the hinged side

sharply until you make a hole.

Shrimps: Fresh shrimp have a greyish-green shell and firm flesh. Wash the shrimps and split the shell from front to back. Take out the meat in one piece and wash again. With the tip of a sharp knife remove the dark vein along the centre of the shrimp's back. Shrimps may be shelled after cooking if preferred, but the odour of shrimps cooking in the shell is very unpleasant.

Scallops: Two kinds are available—the small bay or cape scallops and the large sea scallops. Scallops should be odourless,

clean, and cream-coloured rather than white.

DEVILLED CRABS

2 cups cooked or canned crab meat
5 cup rich milk
6 crab shells
2 tablespoonfuls finely chopped
2 tablespoonfuls whole-wheat flour
1 tablespoonful lemon juice
1 teaspoonful vegetable salt
1 teaspoonful dry mustard
2 teaspoonful dry mustard
3 teaspoonful paprika

Pick over the crabmeat to remove all bits of cartilage. Melt the ½ cup of butter in a saucepan and stir in the flour, salt, mustard, and paprika. Add the milk slowly, stirring constantly over low heat until the sauce thickens and boils. Stir in the parsley, lemon juice, and crabmeat. Fill the crab shells with the mixture and top with breadcrumbs and melted butter. Bake in a moderate oven (375° F.) about 10 minutes.

BOILED LOBSTER

Plunge the lobster into a large pot of boiling water. Cover and boil rapidly 20-25 minutes, or until the lobster turns bright red. Remove with tongs or 2 forks if you are serving it hot immediately. Otherwise let it cool in the water.

Cut off the small claws and keep them for garnish. Turn the lobster on its back and cut through the shell from head to tail. Remove and discard the stomach sac, which you will find near the head, and the black intestinal vein running from head to tail.

Discard the spongy lung tissue but keep the green liver and the coral if there is any. Use a stainless steel or silver knife for cutting lobster—other metals discolour the meat.

Serve hot with melted butter or lemon butter; cold with mayonnaise. Crack the large claws and serve with the rest of the lobster meat, and provide a nutcracker for further work on the claws at the table. For each serving allow a whole small lobster or half a large one.

LOBSTER THERMIDOR

2 boiled lobsters 4 mushrooms, sliced 4 tablespoonfuls butter 1 tablespoonful chopped parsley 1 cup cream sauce

 cup sherry
 tablespoonfuls grated Parmesan cheese

Paprika to taste

Split the lobsters lengthwise. Remove the meat from the shell and claws and cut in small pieces. Sauté the mushrooms in butter, adding the lobster after 4 minutes. Slowly add the cream sauce—or, if none is prepared, add first 1 tablespoonful of whole-wheat flour, then gradually 1 cup of milk. Add the parsley and sherry and cook for 2 minutes. Put the mixture back into the lobster shells, sprinkle with grated cheese, and dust lightly with paprika. Bake in a hot oven (400° F.) for 12 minutes, or until the cheese is browned.

FRENCH-FRIED LOBSTER

Remove the meat from the shells of boiled lobsters. Sprinkle with vegetable salt, paprika, and lemon juice. Dip in seasoned flour, then in beaten egg, then in wheat germ. Fry in deep hot fat (385° F.) until browned. Serve with tartar sauce.

OYSTER COCKTAIL

Scrub and open the shelled oysters as described on page 118. Keep the deep side of the shell down as you open them so as to keep in as much of the juice as you can, and open over a bowl to catch what drips out. Discard the other half of each shell and leave the oysters in the deep half. Serve on a bed of cracked ice around a small bowl of chili sauce or cocktail sauce. Garnish with wedges of lemon.

OYSTERS CASINO

Prepare oysters on the half-shell as described for Oyster Cocktail. Sprinkle the oysters with chopped parsley, chopped chives, a few buttered breadcrumbs, and a dash of paprika. Top each with a small piece of bacon and place under the grill or in a moderate oven (375° F.) until browned.

OYSTERS ROCKEFELLER

1½ tablespoonfuls grated white onion
1½ tablespoonfuls finely chopped
2½ teaspoonful vegetable salt
2½ tablespoonfuls finely chopped
2 tablespoonfuls finely chopped
2 tablespoonfuls finely chopped
3 tablespoonfuls butter
2 dozen oysters on the half shell
3 tablespoonfuls finely chopped
6 Buttered crumbs
7 teaspoonful vegetable salt
8 teaspoonful paprika
9 tablespoonfuls butter
9 dozen oysters on the half shell
1 teaspoonful vegetable salt
1 teaspoonful vegetable salt
1 teaspoonful vegetable salt
2 tablespoonfuls finely chopped
8 buttered crumbs

Combine the onion, chives, parsley, celery, lemon juice, and seasonings. Cream the butter and mix in the vegetables and seasonings. Place the oysters in a shallow baking pan and on top of each a spoonful of the onion and butter mixture. Sprinkle with buttered crumbs. Bake in a moderate oven (375° F.) 25–30 minutes, or until the crumbs are browned.

SCALLOPED OYSTERS

cup melted butter
| 1 teaspoonful nutmeg | 1 pints oysters | 1 teaspoonful grated onion | 1 teaspoonful vegetable salt | 1 cup cream | 1 teaspoonful paprika

Combine the melted butter, breadcrumbs, onion, and seasonings. Drain the oysters, saving $\frac{1}{3}$ cup of the juice. Put a layer of oysters in the bottom of a buttered baking dish. Top with a layer of buttered crumbs, then another layer of oysters. Pour oyster liquor and cream over the three layers, then top with the remaining crumbs. Sprinkle with paprika and bake in a moderate oven (375° F.) 25–30 minutes, or until the crumbs are browned.

CREAMED SCALLOPS

Scallops are usually French-fried or creamed. For creamed scallops, add to I cup of cream sauce the following: \(\frac{1}{4}\) teaspoonful dry mustard, \(\frac{1}{2}\) teaspoonful grated onion, I\(\frac{1}{2}\) teaspoonfuls finely chopped parsley, I\(\frac{1}{2}\) teaspoonfuls lemon juice, and \(\frac{3}{4}\) pint of scallops, cut in small cubes. Heat and serve.

CREOLE SHRIMP

2 or 3 tablespoonfuls chopped onion
1 green pepper, chopped
2 tablespoonfuls butter
2 tablespoonfuls whole-wheat flour
2 cups condensed mushroom soup
½ teaspoonful vegetable salt

teaspoonful paprika
 teaspoonful thyme
 small bay leaf
 tablespoonfuls chopped pimento
 cups cooked or canned shrimp
 tablespoonfuls minced parsley

Melt the butter in a heavy frying-pan. Sauté the chopped onion and green pepper in the butter for a few minutes, then stir in the flour until smooth and well blended. Add the mushroom soup gradually, stirring constantly, and cook over low heat until the mixture thickens and boils. Add the seasonings and shrimps and cook about 5 minutes to heat the shrimps. Remove the bay leaf before serving. Serve on toast or boiled rice and garnish with the minced parsley.

SALMON CASSEROLE

2 cups canned or cooked salmon 2 cups canned or cooked peas I tablespoonful minced onion 2 tablespoonfuls minced parsley 5 tablespoonfuls butter 3 tablespoonfuls whole-wheat flour
1½ cups liquid from salmon and
peas and milk

4 tablespoonfuls whole-wheat breadcrumbs

Drain the salmon and peas, saving the liquor. Add enough milk to make 1½ cups. (Use all milk if the peas and salmon are home-cooked.) Melt 3 tablespoonfuls of butter in a heavy frying-pan. Stir in the flour, blending well. Add the liquid gradually, stirring constantly, and cook over low heat until the mixture thickens and boils. Stir in the salmon, peas, and seasonings. Pour into a buttered casserole or shallow baking dish. Sprinkle with breadcrumbs and dot with the remaining butter. Bake in a hot oven (450° F.) about 10 minutes, just until the crumbs are brown.

Tuna fish may be used instead of salmon.

TUNA FISH À LA KING

I can tuna fish

3 tablespoonfuls butter

4 cup green pepper cut in thin strips

5 cup sliced mushrooms

2 tablespoonfuls whole-wheat flour

1 cups rich milk or thin cream

1 cup thin slices of pimento
Vegetable salt to taste
Paprika

I egg yolk, slightly beaten
2 tablespoonfuls sherry if desired

Open a can of tuna fish, preferably solid white meat. Wash under warm running water to remove the oil and the fish taste. Melt the butter in a frying-pan and sauté the green pepper and mush-rooms until soft—about 5 minutes. Stir in the flour and when well blended slowly add the milk or cream. Stir over low heat until the milk thickens and bubbles. Add the pimento and tuna fish, broken into chunks, and season to taste with vegetable salt and paprika. Heat through. Slightly beat the egg yolk and stir into it a little of the hot sauce. When well mixed, stir it into the sauce. Add the sherry and serve at once on buttered whole-wheat toast or in patty shells.

An economical and delicious recipe which tastes exactly like chicken à la king.

EGGS AND CHEESE

Eggs are as important in the diet as milk. They contain first-class protein and are rich in all vitamins except vitamin C. Four or five eggs per week is recommended for everyone, although old people should perhaps have less because of the high cholesterol content of eggs.

Parsley, milk, pimento, cheese, etc., give variety to egg dishes and increase the protective food value as well.

HOW YOU CAN TELL A FRESH EGG

One egg is much like another from the outside. There is little for you to judge by until you open it. However, there is one point—if the shells are shiny instead of dull, it means that the thin mucilaginous coating on the outside of the shell has been rubbed off, and therefore the egg has been deteriorating

more rapidly than usual because the shell is porous when the coating is removed. But for the most part you will have to trust the grading system, by which eggs are separated into grades according to size and quality, and your grocer's integrity. If you can, see that your grocer keeps his eggs in the refrigerator. Not enough of them do, but if enough of you ladies insist on it, the day will come when eggs sitting on the open counter will be as outmoded as the open cracker barrel of the horse-drawn-carriage days.

When you get your eggs home, put them in the refrigerator at once. The longer eggs stand at room temperature, the faster they deteriorate. If they are dirty, wipe them with a soft cloth or rub lightly with a brush. Do not wash them unless just before you use them, for washing removes that fragile protective coating on the shell.

When you break an egg you can tell whether it is fresh by the thickness of the egg white. In a good fresh egg, the white is very thick and the yolk stands up above the white instead of settling down. In a stale egg the white is runny and the yolk flattens out tiredly. When a recipe calls for more than one egg, it is wise to break each one separately into a saucer and examine it for freshness before you add it to the others.

COOKING EGGS

'She doesn't know enough to boil an egg,' you hear, as though cooking eggs were the simplest thing in cookery. Well, it is if you know that high heat toughens eggs. A delicate, tender, well-cooked egg can be produced only if you cook it at low heat.

SOFT-COOKED (BOILED) EGGS

Eggs cooked in the shell are still generally called 'boiled eggs,' either soft-boiled or hard-boiled. Properly speaking, however, eggs should never be boiled, only simmered. The water should completely cover the eggs and should not boil once the eggs have been put into it.

Bring water to a boil in a saucepan large enough to accommodate the number of eggs you plan to cook. Lower the eggs carefully

into the water on a spoon and reduce the heat so that the water doesn't bubble. Let the water simmer 3-5 minutes, according to how hard you like your eggs. Remove them immediately when the time is up.

It is best to let eggs stand at room temperature for a little while before cooking them. Your timing will be more accurate and you run less risk of having the shells crack when the hot water touches

them.

HARD-COOKED (BOILED) EGGS

Simmer the eggs in water to cover as described above, allowing 15-20 minutes. Stir the eggs carefully with a spoon once or twice during cooking to keep the yolk in the centre. Too-hot water or too-long cooking may give that unattractive greenish rim you sometimes see around the yolk of a hard-boiled egg.

EGGS À LA MODE

Butter generously a slice of whole-wheat toast for each person to be served. On it place one or two hot soft-cooked eggs removed from the shell without breaking. Cover each portion with $\frac{1}{3}$ cup of well-seasoned hot stewed tomatoes. Serve on a hot platter and garnish each with a sprig of fresh watercress or parsley. More tomato may be served from a separate dish if desired.

POACHED EGGS

If the eggs are not perfectly fresh, pick some other way of cooking them. Poaching, for good results, demands a perfectly fresh

egg.

Fill a shallow pan two-thirds full of water. Add ½ teaspoonful of vegetable salt for each 2 cups of water. Bring the water to the boil and reduce the heat. Break each egg into a cup and slip it into the water. Don't try to cook more eggs that can sit comfortably in the water without touching each other. When all the eggs are in the water, cover the pan and simmer gently for 3-5 minutes; longer if you like the yolk firm. Lift the eggs from the water with a draining spoon and serve immediately on buttered whole-wheat toast.

Eggs may also be poached in Hauser Broth, in milk, or in condensed tomato soup.

SHIRRED EGGS

Butter a shirring dish for each person to be served. In each dish put I tablespoonful of raw celery juice (or any other desired vegetable juice) and I tablespoonful of heavy cream. Break an egg into each dish and sprinkle with vegetable salt. Set the dishes into a pan of hot water and bake in a moderate oven (350° F.) until the egg is sufficiently set—about 10 minutes. Garnish with chopped parsley or paprika.

SCRAMBLED EGGS

Break fresh eggs into a bowl. Add a generous tablespoonful of cream for each egg, and sprinkle with vegetable salt to taste. Beat until blended with a rotary egg beater. Melt butter in a heavy frying-pan and pour in the eggs. Cook over low heat, stirring up the cooked layer of egg along the bottom of the pan as it forms. When the eggs are done, either firm or a little wet as your taste requires, remove immediately from the heat and from the pan and serve.

Before cooking the egg mixture, you can add grated onion, finely chopped chives, minced parsley, or sautéed chopped fresh mushrooms.

FRENCH OMELET

French omelet is made with the same mixture as scrambled eggs. The difference is in the way of cooking. Instead of stirring up the eggs as they cook, lift the edge of the bottom gently with a spatula and tip the frying-pan to let the uncooked top run under the bottom and be cooked in its turn. When the bottom is brown and the omelet is firm all through, fold it in half and serve. Cheese, vegetables, chopped left-over meat or chicken can be spread over the top of the omelet before you fold it.

APPLE OMELET

4 eggs, well-beaten
I cup shredded raw apple
Lacip tomato juice

2 tablespoonfuls thick cream $\frac{1}{2}$ teaspoonful vegetable salt

Beat the eggs until light, then beat in the other ingredients. Pour into a well-oiled baking dish and bake in a moderate oven (375° F.) about 15 minutes, until browned.

RAGOUT OF EGGS

₹ cup vegetable oil I onion, chopped ½ eggplant, cubed ₹ clove garlic, minced ₹ pimento, diced	I large ripe tomato teaspoonful powdered sage teaspoonful vegetable salt hard-cooked eggs cut in 16ths tablespoonfuls minced parsley
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Put half the oil in a heavy frying-pan and brown the onion and eggplant in it. Add the rest of the oil, the other vegetables, and the sage. Cover and simmer gently about 10 minutes, until the eggplant is cooked through. Add the salt and the pieces of egg and heat the eggs through. Stir in the parsley just before dishing up. Serve with toast croûtons.

EGG CHOP SUEY

3 tablespoonfuls vegetable oil	I large green pepper cut in squares
2 medium-sized onions cut in thin	I 4-egg omelet, well browned on
wedges	both sides and cut into cubes
5 large stalks celery cut in 1-inch	हुँ can tomato soup
pieces	🗓 teaspoonful vegetable salt

Heat the oil in a covered frying-pan. Sauté the onion and celery in the oil for 15-20 minutes, adding a little water if necessary to keep them from burning. Five minutes before they are soft, add the green pepper. When the vegetables are done, add the omelet and tomato soup and vegetable salt. Stir over low heat until heated through. Serve in a ring of hot mashed cooked vegetable, well seasoned.

Preparation: 15-20 minutes.

4 servings.

CHINESE EGGS

3 egg
1½ cups shredded raw vegetables
2 cups shredded raw vegetables
3 teaspoonful vegetable salt

Beat the eggs and shredded vegetables together until the mixture is thick and the egg evenly distributed through the vegetables. Take

a third of the mixture and press against the curving sides of a teacup or ladle so that the vegetables will lie flat when the mixture is carefully poured into the frying-pan. Heat the fat in the frying-pan and pour in the mixture to make 3 thin flat cakes. Brown on one side, salt, and turn over, then brown the other side—about 10 minutes in all.

Any quick-cooking tender vegetables may be used alone or in combination. One part cucumber to 2 parts spinach is good; or eggplant and onion with green pepper, or a mixture of leafy greens. Preparation: 5-10 minutes.

3 servings.

EGGS ON VEGETABLE TOAST

For each person to be served, cut a slice of eggplant $\frac{3}{4}$ inch thick. Moisten in milk or egg diluted with milk and dust with whole-wheat flour. Place in a buttered baking dish, allowing I tablespoonful of butter for each slice. Bake in a hot oven (400° F.) until the bottom is browned, about 15 minutes. Turn the slices over and in the centre of each scoop out a hollow large enough to hold an egg yolk. Sprinkle with vegetable salt and break an egg into each hollow. Return to the oven and bake until the egg is set—about 5 minutes. Sprinkle with paprika and serve with a garnish of any desired green.

CHEESE

Some 400 varieties of cheese, stemming from all parts of the world, would suggest that cheese is a popular food. Every people has produced a distinctive variety of this food derived from their own customs and preference. Cheeses of all kinds are made from the coagulated curd of milk, hence they are high in protein and in fat. Their food value depends upon what kind of milk they are made of—whole milk, skimmed milk, or cream. Cheese made from whole milk is rich in vitamin A. Cottage cheese, made from skim milk, is low in fat.

Keep in mind that cheese is a concentrated food. It should be used as a substitute for meat or combined with foods which need added nutritive value. When used for dessert, it should always follow a light meal, never a heavy one.

Of the many varieties, the Cheddar cheeses are best for cooking. Cheddar cheese melts easily without forming strings, has a sharp flavour which can compete with the flavours of other ingredients in a dish, and is relatively inexpensive.

MAKE YOUR OWN COTTAGE CHEESE

Cottage cheese is made by heating sour milk until the curds coagulate and separate from the watery part, the whey. You can either let the milk turn sour by itself, heat it over low heat to lukewarm, and drain through cheesecloth, or sour the milk by adding lemon juice. Put fresh milk in a saucepan, heat it gently to lukewarm, stirring with a wooden spoon, and then put into it 2 teaspoonfuls of lemon juice per cup of milk. Stir well and when the milk is thoroughly curdled, strain it through cheesecloth, pressing out the whey with a wooden spoon to drain the cheese thoroughly. Flavour with a little vegetable salt and vitaminize it by adding chopped chives and lemon. Keep in the refrigerator.

MAKE YOUR OWN CREAM CHEESE

Take a bottle of fresh cream and let it sour, which will take about 2 days at room temperature. Pour the contents into a cheesecloth bag and let it drain. When solid, put it in the icebox and chill it, forming it into a flat cake or into balls. Delicious for desserts or cake fillings.

CREOLE TOAST

For each person to be served, cut 2 or 3 slices of ripe tomato. Put each slice on the buttered side of a square of bread cut slightly larger than the tomato slice. Put these into a very hot oven (400° F.) for 5 or 10 minutes. Then add to each slice a sprinkling of minced onion, minced green pepper, a dash of vegetable salt, and paprika. On top put a thick layer of grated Cheddar cheese and return to the oven to bake until the cheese and bread are browned.

Drained canned tomato pulp may be used in place of tomato slices.

MILK DESSERTS—CUSTARDS, ICE CREAMS, AND PUDDINGS

Here are the old standbys with which mothers induce children to eat their quota of milk:

BAKED CUSTARD

4 eggs 3 cups milk

3 cup unrefined brown sugar Sprinkling of nutmeg

4 teaspoonful vegetable salt

Beat the eggs slightly, stir in the sugar and salt, and add the milk. Stir until the sugar is completely dissolved, then pour into a buttered baking dish or individual custard cups. Set the mould in a pan containing hot water up to the level of the custard. Bake in a moderate oven (375° F.) until the custard is set—about half an hour. To test the custard, insert a silver knife into the middle of it. If the knife comes out clean, the custard is done.

Preparation: 10 minutes.

6 servings.

CARAMEL SOYA CUSTARD

† cup caramel sauce 6 tablespoonfuls unrefined brown

2 cups soya milk Pinch of vegetable salt
2 eggs \frac{1}{2} teaspoonful vanilla

See p. 318 for method of making soya milk.

Butter individual custard cups and put I tablespoonful of caramel sauce in the bottom of each. Beat the eggs slightly, add the sugar and salt, milk, and the rest of the caramel. Stir until the sugar is dissolved. Pour gently into the custard cups, set the cups in a pan of hot water up to the level of the custard, and bake in a moderate oven (375° F.) until the custard is set—about 30 minutes. When a silver knife inserted in the middle of the custard comes out clean, the custard is done. Chill, turn out each cup into a dessert dish, and garnish with whipped cream.

Preparation: 5-10 minutes, 4 servings.

RICE PUDDING

2 tablespoonfuls uncooked brown \frac{1}{8} teaspoonful nutning
rice \frac{1}{4} teaspoonful vegetable salt
2 cups soya milk 2 teaspoonfuls butter
\frac{1}{6} cup unrefined brown sugar

Wash and pick over the rice. Scald the soya milk, add the rice, then the other ingredients. Turn into a buttered baking dish and bake in a moderate oven (350° F.) 1½ hours, stirring occasionally as a brown crust forms. During the last half-hour do not stir. Serve with heavy cream, or add the cream to the pudding at the last stirring.

Preparation: about 10 minutes.

3 servings.

HONEY RICE PUDDING

3 tablespoonfuls uncooked brown rice ½ teaspoonful vegetable salt
1 quart rich milk 2 tablespoonfuls seedless raisins
2 tablespoonfuls honey

Wash and pick over the rice. Put it in a buttered casserole—it should barely cover the bottom of the dish. Mix the milk, honey, and salt and pour over the rice. Last sprinkle in the raisins. Bake in a moderate oven (350° F.) for $1\frac{1}{2}$ hours, or until set. Chopped dates in place of raisins make a welcome change.

RICE AND RAISIN PUDDING

Prepare Boiled Rice (page 311), adding I cup of raisins when you turn off the heat. Let stand an hour over hot water and serve with cream. This makes either a dessert or a breakfast food.

RICE AND DATE PUDDING

Prepare Boiled Rice (page 311), adding I cup of chopped dates when you turn off the heat. Let stand an hour over hot water and serve with cream.

FROZEN DESSERTS

The smooth, creamy texture which marks a good ice cream comes from the churning of the dasher. Since most of us freeze

ice cream in an automatic refrigerator these days, special ingredients have to be used to counteract the formation of ice crystals. The gelatine-base method of making ice cream gives a smoother consistency.

Nearly all ice creams are improved by standing an hour or more in the refrigerator after they are frozen.

DIRECTIONS FOR FREEZING IN A REFRIGERATOR

Set the control for fast freezing. Pour the mixture into a tray and place the tray on the bottom of the freezing compartment or on a shelf with a freezing coil. Freeze until firm throughout.

If egg white or whipped cream is called for, beat it at this time. Heavy cream should be whipped only until it will just hold its

shape, never until stiff.

Remove the frozen mixture from the tray to a chilled bowl and break it up with a wooden spoon. Beat with an electric mixer or a rotary egg beater until the mass is free from hard lumps but still crumbly. Don't beat so long that liquid forms. Fold in the whipped cream or egg white with a turn or two of the beater or the spoon. Return the mixture at once to the tray and put it back in the refrigerator to finish freezing. Wet the bottom of the tray to insure good contact and thus hasten freezing.

Set the control halfway between fast freezing and normal

operating to hold the ice cream until time to serve.

VANILLA ICE CREAM

Beat I quart of light cream to a stiff froth. Sweeten with honey to taste and flavour with 2 teaspoonfuls of vanilla. Freeze according to directions.

VANILLA ICE CREAM WITH GELATINE

2½ cups milk
½ cup unrefined brown sugar
1½ teaspoonfuls gelatine

2 teaspoonfuls vanilla 1 cup heavy cream, whipped

Scald the milk with the sugar and sprinkle the gelatine over the top. Stir until the gelatine is dissolved, and cool. Add the vanilla and pour into refrigerator trays to freeze. Add the whipped cream when you take out the mixture after its first freezing, as directed.

OTHER FLAVOURS OF ICE CREAM

Use either of the recipes above for Vanilla Ice Cream and make the following changes:

Peach Ice Cream: Reduce vanilla to I teaspoonful, add ½ teaspoonful almond extract and 2 cups crushed peaches sweetened with ½ cup brown sugar or honey.

Strawberry or Raspberry Ice Cream: When ready to freeze, add 2 cups crushed berries sweetened as necessary, according to the kind of

berries.

Pineapple Ice Cream: Use I tablespoonful lemon juice instead of vanilla and add 2 cups well-drained crushed pineapple or grated fresh pineapple.

Black Walnut Ice Cream: Reduce the vanilla to 1½ teaspoonfuls and add ¾ teaspoonful almond extract. Before freezing add 1 cup

finely chopped black walnuts.

Pistachio Ice Cream: Reduce vanilla to 1½ teaspoonfuls and add ¾ teaspoonful almond extract or rose flavouring. Add I cup finely chopped blanched pistachio nuts. Tint green with vegetable colouring, remembering that the colour will be lighter when the cream is frozen.

JIFFY ICE CREAM

I pint ripe strawberries or rasp- Juice of ½ lime
berries ½ cup heavy cream, whipped
½ cup water Pinch of vegetable salt

2 tablespoonfuls honey

Mash the berries thoroughly. Combine the water, honey, lime juice, and salt. Mix thoroughly and add to the berries. Fold in the whipped cream and freeze according to directions.

FRUIT ICE CREAM

I teaspoonful powdered agar-agar

½ cup boiling water

¾ cup brown sugar

I tablespoonful lemon juice

I tablespoonful lemon juice

I cup whipped cream

Dissolve the agar-agar in the boiling water. Add the sugar, lemon juice, and fruit pulp, then the thin cream and biscuit crumbs. Freeze

until stiff, then fold in the whipped cream as directed under Directions for Freezing.

VANILLA ICE CREAM WITH CONDENSED MILK

g cup condensed milk
g cup milk
I teaspoonful vanilla (or more to
taste)

Pinch of vegetable salt
I cup heavy cream, whipped

Combine the condensed milk, milk, vanilla, and salt. Put in the freezing tray and freeze. Add the cream whipped until it will just hold its shape when the mixture is taken out after the first freezing, as described in Directions for Freezing.

SOYA ICE CREAM

1½ teaspoonfuls flaked agar-agar
1 cup soya milk, scalded
½ cup honey

1 teaspoonful vanilla
½ cup heavy crean

Soak the agar-agar in the warmed milk for 20 minutes, then dissolve over boiling water—about 10 minutes. Remove from the heat, add the honey and salt, and let cool. When the agar solution begins to stiffen, whip the heavy cream and add with the vanilla. Freeze until firm, stirring well once when partly frozen.

ICES AND SHERBETS

An ice is a mixture of fruit juices, sugar, and flavouring; a sherbet is an ice with egg whites, milk, cream, or gelatine added. Milk sherbets are smoother than ice cream and add fewer calories.

DIRECTIONS FOR FREEZING

To freeze ices and sherbets in a refrigerator, set the control for fast freezing. Combine the fruit juices and chilled syrup according to directions. Mix well and pour into the freezing tray. Freeze until firm, remove from the tray and break up with a wooden spoon in a chilled bowl. Beat with an electric mixer or a rotary egg beater until free from hard lumps but still a thick mush.

If you are making an ice, return to the freezing tray and freeze until firm. For a sherbet, beat the egg whites until stiff and add at this time before returning to the freezing tray.

LEMON ICE

3 cups water

I tablespoonful grated lemon rind

the cup honey

the cups brown sugar

Combine the water, honey, sugar, and lemon rind in a saucepan. Place over low heat and stir until the sugar is dissolved. Bring to the boil and boil 5 minutes without stirring. Cool, add lemon juice, strain, and freeze.

OTHER ICES

To make ices with other flavours, make the following changes in a recipe for Lemon Ice:

Lime Ice: Use grated lime rind and lime juice instead of lemon.

Orange Ice: Reduce the water to 2 cups and use 1½ cups of orange juice and ½ cup of lemon juice.

Strawberry Ice: Reduce the water to 2 cups and the lemon juice to 1 tablespoonful. Mash I quart of ripe strawberries, strain through a cheesecloth, and add the juice to the cooled syrup. There should be 1½ cups of juice.

Raspberry Ice: Follow directions for Strawberry Ice.

Pineapple Ice: Reduce the water to 1½ cups and the lemon juice to ½ cup. Add 1½ cups pineapple juice and pulp to the cooled syrup.

SHERBETS

Use any of the above recipes for ices, and add 2 stiffly beaten egg whites when the ice is broken up after the first freezing.

MILK SHERBETS

Use any of the above recipes for ices, using milk instead of water. Scald the milk with the sugar and honey in the top of a double boiler. Cool, add remaining ingredients, and proceed as directed for ices.

BUTTERMILK SHERBET

1 tablespoonful lemon juice cup honey (or to taste)

1 tablespoonful lemon juice I egg white

I cup buttermilk Pinch of vegetable salt

Mix together the fruit and honey. Add the buttermilk and lemon juice and mix thoroughly. Transfer to a freezing tray and freeze until firm, stirring well once if the ingredients separate. Beat the egg white until stiff and fold in as directed under Directions for Freezing.

Pineapple Buttermilk Sherbet: Use ½ cup unsweetened canned crushed

pineapple.

Grapejuice Buttermilk Sherbet: Use unsweetened grape juice and

reduce the amount of honey.

Orange Buttermilk Sherbet: Use freshly squeezed orange juice and pulp, substituting the grated rind of $\frac{1}{4}$ lemon instead of lemon juice and reducing the amount of honey.

SOLVING THE MYSTERY OF THE MISSING NUTRIENTS

When you peel, pickle, cook to death, throw away, and smash fresh, living foods from the garden, you are guilty of murder—murder that is unpardonable with our present knowledge of nutrition. For years I have told my students again and again that 'Heaven sends us good foods, but the devil sends us bad cooks.'

One of the major causes of widespread ill health is faulty methods of handling, preparing, and cooking foods. From the moment food is gathered, deterioration sets in. The greatest losses prior to cooking are the destruction of carotene and vitamins A and C, which are due to the presence of enzymes in the cells of all plants. These enzymes cause the vitamins to combine with oxygen, thereby destroying them. Enzymes, however, cannot act when the food is kept chilled, and they are quickly destroyed when heated to boiling temperature. If fruits and vegetables are brought from the market or garden before they are to be used, they should immediately be washed and placed in the refrigerator. The only exception to this rule is in handling foods with heavy peeling which protects the vitamins from oxygen, as does the peeling on bananas, oranges, apples, and potatoes.

The washing itself should be done with the utmost care, as thoroughly but also as quickly as possible. Under no circumstances should any food be soaked. Food which may be infested with insects should be examined well but not soaked in salt water as is frequently recommended. If poison sprays have been used on foods, buy at your chemist's one ounce of chemically pure hydrochloric acid and mix it with three quarts of water. This is approximately a 1 per cent solution. The

spray-remover can be kept in an earthenware crock and used repeatedly for a week or more, provided the vegetables are first washed in the ordinary manner. They should be placed for five minutes in the spray-remover, removed and rinsed in water. Should a little of the hydrochloric-acid solution remain on the vegetables it will do no harm, but rather inhibit the active of enzymes and preserve the vitamin content.

The unnecessary soaking of fruits or vegetables robs these foods of large quantities of minerals and the water-soluble vitamins. Immediately after washing, all water should be shaken off and the food placed in a covered vegetable container in the refrigerator. If any food has become dried up, a small amount of water can be left on after washing or be sprinkled on it, but the food should not be soaked.

SERVE SALADS FIRST

Most cooks do not know how to get the fullest value from the ingredients. The first consideration in making delicious salads is that the fruit or vegetables be fresh, crisp, and completely dry. The French, masters of making delicious salads, consider it a faux pas if the dressing does not adhere to the leaves. This it cannot do if the leaves are wet. If you have been abroad, you have probably seen French peasants swinging a wire basket of lettuce in the air to shake the water off the leaves. When this is done, the oil in the dressing clings to the leaves.

Salads should be prepared from chilled vegetables and fruits immediately before serving. If the salad must be prepared before the meal, it should be placed immediately in the refrigerator. With a little care, salad making can be an adventure and every salad can have a different flavour depending upon the vegetables and herbs used. All over California, and particularly here in Beverly Hills, I have taught people to make salad bowls and to serve the salad course first. A tempting salad dressing starts the flow of digestive juices. Serving the salad first is one of the best insurances against overeating. Moreover, a person who cares little for salads will usually eat them most

willingly when they are served first because he is especially hungry at this time. This practice makes it possible for a person's food habits to be trained and guided along new paths. For suggestions of a variety of delicious salads, see the salad recipes in the 'New Health Cookery', Chapter XXI.

SHORT-COOK YOUR VEGETABLES

Vegetables to be cooked should be washed and chilled in the same manner as salad vegetables. The chilling prevents the enzymes from causing deterioration of vitamins during preparation. No vegetable should be peeled unless it is so old that the peeling is tough and unpalatable. In most root vegetables, the largest amount of minerals is directly under the skin, and these are lost if the food is pared. Again soaking must be avoided if taste and nutritive value are to be preserved.

If vegetables must be prepared several hours prior to cooking, they should be covered with oiled paper and placed in the refrigerator without water. Potatoes for mashing and apples for sauce should be steamed in the peeling and then run through a purcer or ricer. For years I have used the expression 'smashed' potatoes. People try to correct me, but I insist that by the time they arrive on the table, all the good has been 'smashed' out of them. It is important to learn that when we eat potatoes, they should be cooked without water, preferably baked, in their jackets and eaten in their entirety. Preparation in this manner preserves the vitamin C, iron, and other nutrients usually lost when they are pecled, soaked, and boiled.

Temperature below the boiling point accelerates enzyme action. The greatest destruction of vitamins, therefore, occurs between the time food is first put on the fire and the time when it reaches the boiling point. This period should be shortened as much as possible. As soon as the boiling point is reached, the enzymes are destroyed, and the vitamin loss is decreased. Further destruction, especially of vitamins B₁ and folic acid, and to a lesser extent, vitamin A and carotene, occurs because the heat itself breaks down these vitamins; hence the shorter the cooking time, the less vitamins lost.

Perhaps the greatest losses in cooking are due to boiling in water. All minerals, all sugars, vitamin C, and all vitamins of the B family can pass through the cell walls of foods into cooking water, even when the food is raw. Still greater losses occur as the cell walls break down during cooking, for then all nutrients, including those which do not dissolve in water, pass into the cooking liquid. A desirable method of cooking, therefore, must meet three qualifications: first, the food must be rapidly heated; second, the cooking time must be the shortest possible; and third, little or no water must be used. Of all cooking equipment now in use, utensils which allow quick steaming are perhaps the most desirable. In this method, air is replaced by steam, the initial heating is rapid, little or no water is used, and the cooking time is short. Pressure cookers are available at all the big stores, where comprehensive demonstrations are given on how to use them. They are ideal for short-cooked vegetables. Foods can easily be overcooked, however, unless care is taken.

In order to shorten the period before cooking begins and the food reaches boiling temperature, have your cooking utensil piping hot before the food is put into it. If the food is to be steamed, put in two or three tablespoonfuls of water or Hauser Broth, bring it to a boil, and fill the utensil with steam. Steam replaces oxygen which combines with and destroys carotene and vitamins A and C; hence replacement of air with steam is of paramount importance. The food should then be put into the utensil and the fire turned high so that cooking can begin as quickly as possible. If fat is to be used in preparing vegetables, as would be desirable except for persons who wish to reduce, the fat may be placed in the pan and well heated before the food is added. If a food is to be baked, the oven should be heated first. Whenever a food must be boiled because of no utensils being available for 'waterless' cooking, the water should be brought to a rolling boil, salted, the food added, and the water again brought to a boil in the shortest possible time. Vegetables cooked without water should be salted only when cooked.

Cooking time can be greatly speeded up if the food is diced,

chopped, or shredded. Breaking up the food, however, increases the surfaces exposed to oxygen and can bring about greater deterioration of vitamins unless the food is sufficiently chilled to prevent enzyme action. In preparing leafy vegetables such as chard, collards, mustard greens, spinach, kale, and radish, beet, and turnip tops, the leaves need not be cut if they are young and tender. If old, however, the chilled leaves should be quickly shredded and dropped into a tablespoonful of water or hot vegetable fat, to which a bit of garlic or onion can be added if desired. The leaves should be kept on the fire only three to four minutes or until withered; they should be served immediately and are delicious.

The true art of cookery comes in the preparation of vegetables, for it takes time and thought to prepare them well. American vegetables, oversoaked and overcooked, almost invariably taste flat. The Chinese more than any other race know the secret. They short-cook. That is why Chinese vegetables have a distinct flavour and body. You will never have to force your family to cat vegetables if you prepare

them quickly, without soaking and over-cooking.

There are many different ways to cook vegetables. For the simplest procedure, shred the vegetables finely and cook them in small pots, covered to prevent air from getting in and steam from escaping. Remember keeping air out prevents the destruction of vitamins C, A, and carotene. By using 'waterless' cooking utensils which distribute the intense heat from the bottom to the sides and lid, the vegetables do not burn and you can cook with little or no water. This method keeps all the goodness and distinct flavour of each vegetable and is similar to the Chinese method. Try to short-cook cauliflower or beets in this way; they are dee-licious. When no utensils are available for steaming or waterless cooking, and vegetables must be cooked in water, boil the water first. It is oxygen which destroys several vitamins, and unboiled water contains oxygen which escapes during boiling. (You have perhaps drunk boiled water and know that it tastes flat.) Furthermore, if vegetables are started in boiling water, the enzymes are more quickly destroyed, and the original colour is retained.

Never, never throw away any liquid in which vegetables have been cooked. It contains many vitamins and minerals. Twenty years ago I said, 'The best-fed mouth in America is the kitchen sink. If you must, throw away the vegetables but keep the liquids.' When you use every bit of liquid, there is no objection to cooking in water as long as the vegetables are not overcooked and flat tasting.

So much stress has been placed on losses of nutrients during cooking that those not harmed by heat are often overlooked. Sugar, minerals such as iron, copper, calcium, and the trace minerals, and all the B vitamins except B1 and folic acid dissolve in water but are not destroyed by heat. In addition, most cooking water contains some carotene and vitamins A, C, and B₁. These need not be lost unless the water is thrown away or evaporated to the point where these substances are dried at the bottom of the pan. Many women feel that if only a few tablespoonfuls of cooking liquid are left, this amount is not worth saving. The less water used, the more concentrated the nutrients in it, and the more reason for using it. Appetizing broths should appear on the menu as frequently as vegetable water accumulates. In thousands of modern homes vegetable water added to tomato juice and other vegetable juices is used as vegetable cocktails.

While at the celebrated beauty farm in Maine, where famous women from near and far came for health and beauty, I discovered that there never needs to be a shortage of interesting desserts. There were innumerable varieties of fresh fruits flavoured with orange blossom or other varieties of delicious honey which enhanced the natural flavour and preserved the colour of the fruit. When the spoiled ladies became tired of fresh fruits, we served compotes in the French manner, which means that the fresh fruit or berry is cooked for only a few minutes in a very little water with honey for sweetening. The old-fashioned pudding and other heavy desserts have no place on the Vital Diet. Occasionally one might serve pie made in the modern manner with crust of soya-bean flour mixed with whole wheat and wheat germ. This combination makes unbelievably delicious pie crust, muffins, bread, rolls, waffles,

and pancakes. See dessert and bread recipes in 'New Health Cookery', Chapter XXI.

In 1923 while visiting one of the famous health resorts in Carlsbad (Czechoslovakia) I saw the nurses make fresh vegetable juices. I was fascinated by the idea as it was my first experience with vegetable juice therapy, and upon further investigation I discovered that vegetable juices (they called it 'the blood of the plant') was part of their regular 'cure' for

people with intestinal difficulties.

The following year I imported an interesting gadget that extracts vegetable juices from all sorts of vegetables and started to teach the 'drink your way to health' idea here in America. Fresh vegetable juices are protective foods, powerful in vitamins and minerals. Use carefully washed vegetables, the younger the better, for making vegetable juice cocktails. Start drinking three cups or about a pint a day before or between meals. It would take a huge stomach to hold in vegetables the equivalent in vitamin and mineral content of one pint of juice; vegetable juice therapy, therefore, gives health in concentrated delicious form. The digestive tracts of persons whose health is below par are sometimes irritated by the fibres of fresh fruits and vegetables; hence for these people juices are ideal. Moreover, if you are thin, juices are assimilated more easily than bulky foods. If you are overweight, they satisfy hidden hunger and reduce a craving for fattening foods. They can be easily taken by the many people whose diets are inadequate because of bad or artificial teeth which make chewing difficult. Naturally vegetable juices are not intended to take the place of the entire vegetable—we need their bulk. But these juices are a valuable adjunct to any modern diet. Thousands of my students now enjoy and appreciate dozens of different vegetable juice cocktails.

About 1926, at Bircher-Benner's Sanatorium in Switzerland, I saw almond milk made for patients with poor digestion. Since nuts are often incompletely digested when taken whole and since most Americans do not chew their food well and thus bring upon themselves much indigestion, I conceived the thought of having fletcherizing done by machine. Those with

poor digestion can have the hard-to-digest proteins broken down in a delicious milk-like liquid. See Chapter XXI for fletcherized drinks (p. 320).

NATURAL FOODS TASTE BETTER

By far the greatest fault of the American diet is the eating and overeating of refined foods. Two-thirds of the food eaten, or 66 per cent of our calories, are from denatured foods robbed of most of their vital elements. Of all foodstuffs made from grains, 98 per cent are refined—for example, white flour, refined cereals, crackers, spaghetti, noodles, macaroni, angel (devil's) cake, and an endless variety of pastrics.

Anyone who has eaten macaroni, noodles, and spaghetti made of whole-grain or soya-bean flour will testify that the pasty white variety is by comparison tasteless and flat. These modern products are sold at stores specializing in healthful foods, and they should be used to the exclusion of the refined products. When rice is eaten, it should be the natural brown variety or wild rice wherever possible. Such foods as rice and whole-grain macaroni and spaghetti should be cooked in only the amount of water they will absorb so that no vitamins and minerals will be soaked out and thrown away. It does not matter which grain product you use provided it is taken in its entirety, in the form nature gave it. See Chapter XXI on 'New Health Cookery'.

There is no denying that flour, bread, and cereals, fortified with a little vitamin B₁, niacin, and iron are better than those which are not fortified, but they must never, never be considered as valuable as the natural products. During the refining of flour some twenty-five vitamins and minerals are removed, yet only three nutrients—vitamin B₁, niacin, and iron—are replaced and then only to the extent of about a third the amount in the natural product. Fortified foodstuffs have been given the name 'enriched,' implying that they are as valuable as, or even more valuable than, the natural products. Such a misleading term has done much harm in order that the millers may not have to stand the financial loss of spoilage which

occurs when whole unrefuned foods are marketed. Canada, England, and other countries forbade the refining of food-stuffs made from grains during the Second World War, but unfortunately American money interests are stronger than the desire to produce a healthy nation, even at a time when health and vigour are at a premium.

DON'T EAT JUST CHOPS, STEAKS, AND ROASTS

Fortunately, we have excellent meat cooks in America. See pages 36 seqq. for notes on the cooking of meats. Meats may be eaten in any way except fried. Fried foods have a high fat content which satisfies the appetite so readily that other healthbuilding foods are likely to be crowded out. Most people eat only muscle meats, and the parts of the animal which are the treasure houses of vitamins and minerals are thrown away. Liver, brain, kidneys, heart, sweetbreads, and pancreas are superior to steaks, chops, and roasts. A thousand years ago both Chinese and Greek doctors gave these meats for the treatment of many diseases. While in Vienna I discovered a clinic where many of the inside organs and glands were made into wholesome broths with apparently excellent results. Sooner or later homemakers will realize that not only liver but heart, brain, and other inside organs are 'super' foods; then, unfortunately, these cheaper meats will become as expensive as calves' liver. So start now to serve these glandular meats two or three times a week.

We need not be panicky if meats are not available, because we have a great variety of complete substitutes such as eggs, cheeses, nuts, soya beans, lentils, and dry beans and peas. We have many meatless dishes rich in valuable proteins for which I have given recipes in my 'New Health Cookery'. Just as substitutes for meats are available, so can one vegetable, fruit, or oil be used in place of another. If we cannot obtain olive oil, we can use soya or peanut oil.

Murder in the Kitchen

CHEAT YOUR GARBAGE CAN

With typical American extravagance a great many valuable foodstuffs are customarily thrown into the garbage can. The peclings of root vegetables, the outside dark green leaves and the tops of many vegetables are rich in vitamins and should not be wasted. A special bag or pan for soup stock materials should be kept in the refrigerator for saving pea pods; carrots, radish, and celery tops (the turnip and beet tops should be eaten); the outer leaves of lettuce, cabbage, and spinach; the hard or dried stocks of broccoli, celery, asparagus, and spinach; and the peeling of carrots, turnips, and other vegetables, if they must be peeled. These foods give a particularly delicious flavour to soup stock. The economy of such a practice is far greater than one realizes and results in a varying and delicious stock to which onions, tomatoes, and other vegetables can be added.

No method of cooking allows complete retention of all nutrients. Rules which keep that loss to a minimum should be carefully observed in all food preparation. Nevertheless, it is best to obtain vitamin C from citrus juices, tomato juice, and raw fruits and vegetables rather than to depend on cooked foods. Since vitamin B₁ is rich in whole-grain cercals and meats, these foods should be cooked by the shortest possible method. Short-cooking cereals should be used instead of those which require long cooking; meat should be served underdone; bread is best untoasted.

Use ingenuity in originating ways of preparing vegetables. Realize that many recipes were made before nutrition was understood. Examine them critically, and if they do not respect the rules of modern cookery either improve them or discard them. Beware of any recipe which advises either soaking or parboiling and discarding the water. Never use soda in your vegetables. If a slow method of cooking is recommended, substitute a faster one whenever possible. Above all else, do not overcook.

The health of your family is in direct proportion to the soundness of your cooking methods.

extremely untruthful is the often-heard statement, 'If you eat what you like, you will get everything your body needs.' Such a statement is unforgivable because it does untold harm, and it reveals abysmal ignorance on the part of the speaker. Health cannot be left to chance, and certainly not the health of intelligent, informed persons. See the recipes at the end of Chapters

III, IV, and V for help on this problem.

Nutritional studies have shown us that the average American, eating the foods his palate dictates, rarely completely lacks any one nutrient. For example, he may never get the amount of vitamin A needed to build vital health and to give him a full zest for life, but in the course of a day or a week he usually gets enough to ward off serious disease. In fact, the diet of the average person is usually slightly deficient in ten or twenty or more nutrients. As a result he just gets by as the saying goes, but he is not actually healthy or vital. He is subject to dozens of minor abnormalities such as nervousness, constipation, irritability, insomnia, excitability, lassitude, lack of endurance, indigestion, perhaps headaches, and bleeding gums; he is likely to be susceptible to such infections as pimples, colds, pyorrhoea, and dozens of other deviations from health; and he accepts such abnormalities as premature baldness, premature grey hair, wrinkles, and decrease in virility as inevitable manifestations as early as forty years of age, which can be the very prime of life.

The science of nutrition, which has revealed the daily needs of the body, is a hundred years ahead of the practical application of nutrition. When we learn to eat day after day, month after month, and year after year, all of the essential nutrients a degree of health and vitality can result which is so superior that it is

unknown, unheard of, and even unthought of today.

In planning the Vital Diet, I have tried to include all the nutrients needed to build and maintain such health. I urge you to try this diet for one month at least and find out for yourself how much more vital you can feel. When you are convinced of its merit, when you feel better and look better and when all your friends enquire, 'What on earth are you doing?' tell them the truth, and keep on following the Vital Diet. Keep it always before you as a goal to strive toward. Realize that a good habit,

once formed, can be continued without effort and add years

to your life and life to your years.

The Vital Diet consists of eating only those foods which can build health. Avoid the devitalized foods, for these rob you of your energy, usher in the wrinkles and unattractive skin and dead hair, speed up the onset of old age changes, and make you sag both mentally and physically. Avoid soft drinks, pastries, jams, jellies, and white flour and refined sugar in all forms. Train your food habits just as you would train a spoiled child. Sooner than you think the natural and wholesome foods will give you utter satisfaction.

If you have been stuffing yourself or are even slightly overweight, eat smaller servings, avoid fat, and make it a rule never to overeat. The value of undereating but still obtaining the necessary vitamins, minerals, and proteins was shown by experiments carried on by Dr. McCay and his co-workers at Cornell University. When rats were given foods rich in vitamins and minerals and just enough protein but in amounts so that they stayed slightly hungry, their life span increased to the human equivalent of 107 years. When they were kept on the same diet but allowed to eat all they liked, they lived an average age equivalent to 60 human years. The slightly underfed animals had young ones galore, and kept their youthful appearance until a very late age. In another experiment at Cornell University, puppies were given foods extra rich in vitamins and minerals but starved in calories. These dogs showed higher resistance to infections than those allowed to eat all they wanted. When they were a year and a half oldthe time other dogs have settled down—these dogs romped and played like young puppies. We are justified in assuming that foods rich in vitamins and minerals and adequate in proteins yet low in calories can prolong your life and youthfulness.

In the Vital Diet our first thought must be to obtain first-class proteins. On pages 28-30 there is a complete list of such proteins. An excellent new way of adding first-class protein to your daily diet is to drink a pint or more of yoghourt. This food is just now becoming popular in America.

Besides adding three glasses of yoghourt (33 grams of

protein) to your daily diet, you should have an egg or two (6 grams of protein for each) and either a fourth cup of cottage cheese or one slice of any solid cheese such as cream or Swiss cheese (12 grams of protein). Learn to eat some of the glandular meats such as liver, heart, sweetbreads or thymus, kidneys, pancreas, brain. Have them tenderly grilled and not fried. Fried foods, saturated with fat, satisfy the appetite more readily than any food except sugar and prevent you from eating sufficient fruits and vegetables.

In order to supply vitamins A and especially D, which does not occur in ordinary foods, you should take some sort of fish-liver oil concentrate daily, especially during the sunless months. Purified tasteless capsules can be purchased inexpensively everywhere. Take the number of capsules to give you about 1,000 units of vitamin D daily, and take them with or immediately after breakfast. Vitamins A and D are carried into the blood by a substance supplied in bile; and as there is more bile in the intestinal tract directly after a meal than at any other time, the capsules should be taken after a meal.

The Vitamins of the B family will probably do more to make you feel better immediately than any other nutrient. That is probably why other vitamins have lost some of their glamour; their effect is not as instantaneous; nevertheless, all vitamins are important. The favourite natural sources of these vitamins are powdered brewers' yeast, wheat germ, and black molasses. These are three 'super foods' which give you more for your money than any others you can buy. Brewers' yeast, for example, has been acclaimed the greatest food discovery of all time. It contains eleven known vitamins and six postulated vitamins, sixteen amino acids, and fourteen essential minerals. Brewers' yeast was selected by the Navy as the one food out of the hundreds available to be put on all lifeboats and liferafts for their aviators and sailors isolated at sea. This yeast can also be obtained in tablet form inexpensively everywhere. To make the powdered yeast more palatable it can be stirred into citrus or tomato juice, milk, or water.

Wheat germ is almost as valuable as yeast because it contains all the B vitamins, vitamin E, iron, and first-class proteins. The

value of blackstrap molasses can be appreciated when you realize that it was originally a vegetable juice which has been concentrated by boiling and the removal of sugar until the vitamins stable to heat and minerals are sixty times richer than in the usual vegetable juice. You can gradually develop a taste for all of these foods and enjoy them for a lifetime.

Aside from yoghourt, eggs, cheese, meats, especially glandular meats, fish-liver oil capsules, and foods that supply the B vitamins, your Vital Diet meals should be made up largely of fresh fruits and vegetables. Eat as many as you can raw, in crisp fresh salads, or in cooling and tempting vegetable and fruit cocktails. Whenever possible, get young tender vegetables directly from the garden or market. Whatever vegetables or fruits you cat cooked, short-cook them in their own juices. Salt the vegetables with iodized vegetable salt after they are cooked.

If you have an electric juicer, you can make any number of delicious juices or combinations of juices: celery, carrot, pineapple, apple and watercress, spinach and celery, apple and carrot. These can be taken largely instead of water and may be taken in any amount you desire. Make fresh juices and serve them immediately; valuable vitamins are lost if they are allowed to stand. Fruit juices should be used unsweetened. You can soon cultivate a taste for the natural flavours.

Sample menus for seven days are given at the end of the chapter.

Arrange your meals attractively and eat them slowly. If you are a person of leisure you could even have your main meal at noon. You might think it a nuisance at first to include brewers' yeast, yoghourt, and vitamin A and D concentrates, but I can assure you that the results are far-reaching. It is well worth adjusting yourself to this daily vitality ritual.

Do not expect improvement until you have adhered to the Vital Diet for a few weeks. Realize that in a shorter time you cannot possibly overcome deficiencies of long standing or rebuild what it has taken years to tear down. At the end of about a month you too will be convinced that the most intelligent plan is to eat wisely throughout life, and that foods

which can in no way build health are best avoided. In this case you will want to continue the Vital Diet. As your reward, you will find yourself with greater vigour than you thought possible. Perhaps you too will see a new glow in your skin, hair, and eyes. And when you are ten years older you will probably look ten years younger and be the envy of your friends. I need not tell you that wise eating is worth while, for after you have tried it a few weeks you will tell me the joy and help it has brought you and yours.

YOUR DAILY VITALITY RITUAL

With your breakfast or immediately after fortify yourself with:

I tablespoonful brewers' yeast stirred into fruit juice or tomato juice. If you prefer, take the brewers' yeast in tablet form with your breakfast fruit juice

10,000 units or more of vitamin A, capsules if you like

1,000 units of vitamin D concentrate

Breakpast: 8 ounces fresh orange juice

I large dish cooked wheat germ with a handful of nuts and raisins, served with top milk and sweet-

ened with molasses clear coffee—if you like

MIDMORNING: I glass fruit or vegetable juice, or chilled yoghourt Luncheon: cottage cheese and prune salad sprinkled with wheat

germ

whole-wheat bread and butter

fresh or honeyed fruit

beverage

MID- if at home, I glass fruit or vegetable juice with I AFTERNOON: tablespoonful brewers' yeast, or I glass yoghourt;

if at the office, fresh fruit

DINNER: chopped watercress and lettuce salad sprinkled with

wheat germ

short-cooked broccoli

short-cooked carrots sprinkled with parsley grilled grapefruit sweetened with black molasses

demitasse of dish of yoghourt

check up to make certain that you have had at least BEFORE

RETIRING: I pint yoghourt, 3 tablespoonfuls brewers' yeast

some wheat germ, your 10,000 units of vitamin A

and

1,000 units of vitamin D. If not, make up the

deficiency before you retire

YOUR DAILY VITALITY RITUAL

With your breakfast or immediately afterward fortify yourself with:

I tablespoonful brewers' yeast stirred into fruit juice or tomato juice. If you prefer, take the brewers' yeast in tablet form with your breakfast fruit juice

10,000 or more units of vitamin A, capsules if you like

1,000 units of vitamin D concentrate

BREAKFAST: 8 ounces fresh grapefruit juice

I egg, any way but fried

2 slices whole-grain bread with butter and honey

clear coffee—if you like

MIDMORNING: I glass fruit or vegetable juice, or chilled yoghourt LUNCHEON:

green salad sprinkled with cheese and wheat germ

rye bread toasted fresh or honeyed fruit

beverage

if at home, I glass fruit or vegetable juice with I MID-AFTERNOON: tablespoonful brewers' yeast, or I glass yoghourt;

if at the office, fresh fruit

DINNER: apple, celery, and raisin salad sprinkled with wheat

germ

grilled sea fish

stewed or broiled tomatoes

boiled potatoes with parsley (boiled in jackets, then

peeled)

half melon or honeyed fruit demitasse or dish of yoghourt

check up to make certain that you have had at least BEFORE RETIRING:

I pint yoghourt, 3 tablespoonfuls brewers' yeast,

some wheat germ, your 10,000 units of vitamin A

1,000 units of vitamin D. If not, make up the de-

ficiency before you retire

YOUR DAILY VITALITY RITUAL

With your breakfast or immediately after fortify yourself with

I tablespoonful brewers' yeast stirred into fruit juice or tomato juice. If you prefer, take the brewers' yeast in tablet form with your breakfast fruit juice

10,000 units of vitamin A, capsules if you like

1,000 units of vitamin D concentrate

8 ounces fresh orange juice Breakfast:

Swiss breakfast with ground nuts (See p. 317)

clear coffee—if you like

MIDMORNING: 1 glass fruit or vegetable juice, or chilled yoghourt

tuna fish salad with celery LUNCHEON:

rve bread

I dish yoghourt

if at home, I glass fruit or vegetable juice with I Mrntablespoonful brewers' yeast, or I glass yoghourt; AFTERNOON:

if at the office, fresh fruit

salad bowl with French dressing sprinkled with DINNER:

wheat germ

hamburger steak mixed with parsley, onion, and

wheat germ

raw potatoes fried in peanut oil

short-cooked spinach whole-wheat apricot pie demitasse or dish of yoghourt

check up to make certain that you have had at BEFORE

least RETIRING:

I pint yoghourt, 3 tablespoonfuls brewers' yeast, some wheat germ, your 10,000 units of vitamin A and

1,000 units of vitamin D. If not, make up the deficiency before you retire

YOUR DAILY VITALITY RITUAL

With your breakfast or immediately after fortify yourself with:

I tablespoonful brewers' yeast stirred into fruit juice, tomato juice. If you prefer, take the brewers' yeast in tablet form with your breakfast fruit juice

10,000 units or more of vitamin A, capsules if you like 1,000 units of vitamin D concentrate

Breakpast: 8 ounces fresh fruit juice

scrambled egg

2 slices rye bread toasted with butter and honey

clear coffee—if you like

MIDMORNING: I glass fruit or vegetable juice, or chilled yoghourt

Luncheon: wheat-germ patties

green salad I glass yoghourt

MID- if at home, I glass fruit or vegetable juice with I AFTERNOON: tablespoonful brewers' yeast, or I glass yoghourt;

if at the office, fresh fruit

DINNER: cucumber and tomato salad sprinkled with wheat

germ

grilled liver with crisp bacon

parsleyed potatoes shredded green beans fresh fruit or sherbet I slice soya cake

demitasse or dish of yoghourt

Before check up to make certain that you have had at

RETIRING: least

I pint yoghourt, 3 tablespoonfuls brewers' yeast, some wheat germ, your 10,000 units of vitamin A

and

1,000 units of vitamin D. If not, make up the de-

ficiency before you retire

YOUR DAILY VITALITY RITUAL

With your breakfast or immediately after fortify yourself with:

It tablespoonful brewers' yeast stirred into fruit juice or tomato juice. If you prefer, take the brewers' yeast in tablet form with your breakfast fruit juice

10,000 units of vitamin A, capsules if you like

1,000 units of vitamin D concentrate

Breakfast: 8 ounces tomato juice

grilled sweetbreads

honeyed fruit with soya cake demitasse or dish of yoghourt

Before retiring:

check up to make certain that you have had at least

I pint yoghourt, 3 tablespoonfuls brewers' yeast, some wheat germ, your 10,000 units of vitamin A and

1,000 units of vitamin D. If not, make up the deficiency before you retire



THE NEWER WAY TO INTERNAL CLEANLINESS

Research has thrown much new light on the subject of proper elimination, and many old ideas have been put into discard. Normal elimination is an earmark of health. Conversely, faulty elimination indicates some deviation from health which can usually be corrected readily by a normal amount of exercise and correct eating habits.

Most healthy persons have one evacuation daily. The stools should be soft, formed, free from odour, and easily and quickly evacuated. When evacuation occurs two or three times daily, the person's health may still be normal. As a rule, however, his digestion is below par, and much undigested food, containing vitamins and minerals, is lost in the fæces. If evacuation occurs only every other day and the stools are still soft, that person is still not constipated. Neither is he constipated when the stools are small, for in this case he may have eaten few foods which leave little residue or he may have digested his foods very completely. It is only when the stools are hard that the condition is serious and is spoken of as constipation. Conversely, when the stools are liquid and unformed, the condition is spoken of as diarrhæa. Both constipation and diarrhœa show that the health is below par, and steps should be taken to build it up.

The direct cause of constipation is sluggishness of the muscles in the walls of the large intestine, or colon. Food entering the colon from the small intestine is in liquid form. It contains much of the liquids drunk during a day (which should be about three quarts for an adult) and some four

quarts of digestive juices which have poured into the digestive tract in the form of bile and gastric, pancreatic, and intestinal juices. If this large amount of liquid were to be lost, one would be forced to drink water continuously, for the body needs large amounts of water in order to carry on its work efficiently. The purpose of the large intestine is to conserve liquids. Several quarts of water daily are reabsorbed into the blood from the colon. Animals in the sea do not need to conserve water; therefore they do not have large intestines.

Normally the waste material stays in the large intestine, or colon, about twenty-four hours. The contractions of the circular muscles in the walls of the colon that occur during this time push the contents toward the rectum, or lower part of the large intestine. If these muscular contractions are infrequent or weak, the waste material remains in the colon longer than it should. Since the purpose of the large intestine is to conserve water, the longer the waste material remains there, the more water is reabsorbed into the blood; the result is a hard, relatively dry stool. Such stools may mechanically injure the delicate tissues at the anus, causing hæmorrhoids.

We formerly believed that the fatigue, headaches, groggy feelings, and general discomfort occurring during constipation were caused by toxins absorbed into the blood from bacteria living on waste material. Fortunately the newest research has shown this belief not to be true. When an evacuation takes place, these feelings disappear almost immediately; if they were actually caused by toxins absorbed into the blood, the discomfort would not disappear so rapidly. This fact has shed new light on the true causes of elimination difficulties. Since there exists so much misinformation regarding faulty elimination and its accompanying discomfort, let me tell you about several interesting experiments.

In one experiment, a group of subjects were given enemas to make sure no waste material remained in the rectum. Then their rectums were plugged with sterile cotton. Certainly no toxins were absorbed from the clean cotton, yet the subjects felt uncomfortable, sluggish, and developed headaches. When

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larger amounts of cotton were packed still more solidly into the rectum, nausea and even vomiting occurred. But as soon as the cotton was removed, all symptoms immediately disappeared. Similar experiments were conducted in which small balloonlike instruments were inserted into the rectum and then blown up. The severity of the symptoms was in direct proportion to the amount of pressure against the delicate nerve endings in the walls of the rectum. Such experiments show that the symptoms we formerly believed to be caused by poisons and toxins are actually caused by the pressure on the nerves of the rectum. Pink pill and pale pill manufacturers have led the public to believe that the dangers of constipation are far more serious than they actually are.

Still another experiment, and probably the most helpful and far reaching one, has thrown new light on faulty elimination. This study was carried out by Dr. Russell Wilder of the Mayo Foundation. He put eighteen young women on a diet adequate in all respects except that it contained little vitamin B₁. After living on the diet only two or three days, these women noticed being unusually fatigued and mentally depressed. Their thinking became foggy, and they felt sluggish and suffered from lassitude, nervousness, and irritability. They quickly became constipated. As time went on they developed anæmia, abnormal pulse rate, low blood pressure, and digestive disturbances with gas pain and flatulence. Their ability to work fell off, and they became less efficient both physically and mentally. They eventually suffered from headaches and nausea. Finally vomiting set in so severely that the experiment had to be stopped. As soon as vitamin B₁ was given them they noticed marked relief, and in just a few days they were normal in every respect. The constipation, which had become extremely severe even though their diets were adequate except for vitamin B₁, was quickly corrected.

Many symptoms, such as sluggishness, gas, headaches, lassitude, nausea, and physical and mental inefficiency, suffered by these experimental subjects were those which we used to believe were caused by constipation. Though there are other causes of poor elimination, this experiment, and others similar

to it, show that the most frequent cause of constipation is a deficiency of the B vitamins which results from eating devitalized, 'foodless' foods. True, there are a number of substances which come from the bacterial breakdown of foods in the large intestine, among them those known as indole, skatole, phenol, cresol, tyramine, cadaverine, putrescine, and histamine. As soon as these materials reach the blood, however, they are made harmless, or detoxified, by being combined with sulphur compounds or sugar. For example, indican, which is often found in the urine, comes from indole formed by bacteria in the intestines combined with sulphuric acid. Indole has been injected into dogs and human beings in amounts many hundreds of times that likely to be absorbed from the intestine and no harm has resulted.

Before going on to the dietary correction of faulty elimination, let us pause to see how laxatives and cathartics act and what harm they can do. Most cathartics and laxatives irritate the walls of the small and large intestines. This irritation causes the delicate linings of the digestive tract to 'water,' just as the eye waters when something is in it. No pain is set up by this irritation, because almost no sensory nerves reach the inside of the intestines. The person taking the laxative, therefore, is unaware of the irritation. The water pouring into the intestines causes the stools to be soft or liquid, and rapid evacuation follows. When the stools which result from taking a cathartic or laxative are analysed, many vitamins and minerals and much undigested food are found; hence the body is robbed of valuable substances; and the intestinal walls often become irritated and inflamed. For these reasons, laxatives and cathartics can do harm and should never be used habitually.

Mineral oil is frequently used as a laxative. This oil is not digested but remains in the intestines, acting as a lubricant. Unfortunately, vitamins A, D, E, and K readily dissolve in oil. When mineral oil is taken, the vitamins from the food in the digestive tract and even from the cells in the walls of the intestines pass into the undigestible oil and are thus lost in the fæces. The body is therefore robbed of these valuable vitamins, and deficiencies quickly develop. For example, persons who have

used mineral oil for any length of time often show night blindness caused by loss of vitamin A.

The drinking of an isotonic salt-water solution is a rather harmless way of quickly flushing the intestinal tract. This method is recommended by McCollum of John Hopkins and by Dr. Victor Heiser (of American Doctor's Odyssey fame). Simply add two rounded teaspoonfuls of salt to a quart of very warm water and drink the entire amount on an empty stomach the first thing in the morning. In approximately thirty minutes a thorough flushing will result. For a more pleasant-tasting flush many of my students use three rounded teaspoonfuls of vegetable salt in a quart of very warm water. Such a flushing taken occasionally is harmless and has benefited many. Naturally it should not be taken habitually because many vitamins, minerals, and digested foods dissolve in this solution and are lost to the body.

Enemas if used occasionally with a small amount of water are harmless. However, if much water is used the tiny muscles surrounding the intestines like small rubber bands are often broken and the muscle tone is thus weakened. As the equipment used in taking enemas at home is rarely sterile, harmful bacteria may thus be introduced into the body. What is more important, habitual enemas wash away and remove mucus from the intestinal wall which is needed to form a protective covering. High irrigations should be administered by experts who know the human anatomy. There are times when such emergency cleansings are needed, but high irrigations like enemas should never become a habit.

The ideal way is to get along without any artificial help. When laxatives are used, they should be taken only as a temporary measure. Many years ago I learned to my amazement that even some of my students are too lazy to follow a planned diet and therefore suffer from occasional constipation. Rather than have these people use artificial or chemical laxatives I recommend a combination of dried herbs. While living in Switzerland I discovered a simple formula of about a dozen crushed herbs, and thousands of pounds of these Swiss herbs were shipped over here. This particular herb laxative has had a

phenomenal success and is now made in America under the name of Swiss Kriss. English students might use the herbal Health Tea recommended by Culpeper House. Please remember that under no circumstance should any laxative be used when there is vomiting or abdominal pain. Let your doctor ascertain the cause in such a case.

In my own mind there is no doubt that most cases of constipation could be cleared up in a few weeks' time by eating a balanced diet especially rich in the vitamins of the B family. At least a half cup of wheat germ should be eaten daily either cooked or uncooked and mixed with fruit. See the recipe for Swiss breakfast in Chapter XXI.

In one of the American magazines a new brewers' yeast has been announced which is a natural laxative food because of its very rich content of B vitamins. Until elimination is completely normal brewers' yeast should be taken after meals. It can be taken with fruit juice, vegetable juice, or water after

meals and before going to bed.

Blackstrap molasses (the blackest you can buy) is probably the most laxative of all foods and should be eaten in place of ordinary sugars. A near substitute is black or green treacle. All refined foods, especially white bread, angel (devil) cakes, pies, cookies which make excellent wall-paper paste and can do you no good, should be avoided.

Your vitamin and mineral intake should be as high as possible, and an abundance of fresh fruits and vegetables fur-

nish the best form of bulk.

Yoghourt is especially beneficial for those with lazy elimination. The bacteria in yoghourt live on the sugar of the milk and break it down into lactic acid; gas-forming bacteria cannot live in this acid. During the breakdown, which occurs largely in the colon, a small amount of carbon dioxide is formed. This forms tiny bubbles of gas and thus keeps the contents soft and bulky as a loaf of bread ready to be put into the oven; such a large soft stool makes for easy evacuation. Still more important, the bacteria in yoghourt make, or synthesize, many of the vitamins of the B family which are especially needed in overcoming constipation. In order to stimulate the

further growth of the bacteria in the intestine, milk sugar can be purchased in any health food store and a teaspoonful stirred into each glass or over each dish of yoghourt. The addition of this milk sugar causes a still larger, softer, and bulky stool to be formed; hence it can be used in helping particularly stubborn cases of constipation. This should be used as a tem-

porary measure for only a week or two.

There are a fairly large number of people whose livers fail to produce adequate amounts of bile. Since certain substances in bile give colour to the stools, an inadequate bile flow results in a light or even white stool. Such a person usually suffers from gas, indigestion, and severe constipation. In overcoming this condition, a tablet of whole bile, such as ox bile, could be taken temporarily in the middle of cach meal as an aid to digestion and to substitute for the bile which should be produced normally. In buying tablets which supply bile care must be taken not to get those mixed with cascara or any other laxative.

Overcoming faulty elimination permanently is entirely possible. Re-read the above directions and follow the Vital Diet. Be sure to use large amounts of the B family vitamins as found in wheat germ and brewers' yeast. Also, learn to include blackstrap molasses and yoghourt in your daily diet. With this specialized instruction plus your own determination you should soon achieve normal, natural elimination.

SOLVING THE REDUCING PROBLEM FOR A LIFETIME

The smaller your waistline, the longer your lifeline, so life insurance companies show us by actual statistics. The smaller-waisted people are the ones privileged to enjoy longer lives, not those with lots of avoirdupois in the middle. Just as an artist moulds his statues from clay and bronze so can we mould and remould our bodies with delicious but non-fattening foods. Any person alive, provided his bone structure is normal, can have a trim, vital body if he is willing to work for it. During this reducing regime you can build up your health until you have more energy and are slimmer and trimmer than you have been in years.

Now let us face facts. If you are overweight, you have eaten more food than your body needs, and the excess has been stored as fat. This statement remains true regardless of how little you eat in comparison to a slender, active person. Some people require less food than others because they take relatively little exercise, both internally and externally. You yourself may require little food, but if you wish to be slender, you must either eat low calorie foods or increase your calorie

requirements by increasing your exercise.

The principal reason overweight people fail to reduce is their wrong approach. For example, many of you tell your friends that you are overweight because of your glands. You know perfectly well, and so do your friends, that this remark is only an alibi. Probably only 1 per cent of the people who have made themselves believe that they are fat because of glandular disturbance actually have anything wrong with their glands. In any case, glandular health can be helped by a correct diet, especially iodine and the B vitamins, and by the

removal of excess weight. Your alibi is hollow. Do not use it, for every time you do, your friends put their tongues in their cheeks.

Many people are overweight because they are bored, troubled, or emotionally upset. They gorge themselves as an escape mechanism in the same way that an alcoholic drinks to forget his difficulties. When they have their minds on eating they are not thinking of their problems. Such people do not realize they are eating for this reason, and they are often the first to condemn the alcoholic as lacking character. When their true situation is brought into the open, the correction is easy.

Other people are fat because they over-emphasize both the pleasure of eating and the hardship of denial. Their sense of values is faulty, and they are actually saying that the pleasure of eating is greater than good health and looks. What they fail to realize is that they can learn to *enjoy* eating non-fattening foods just as much as fattening ones, provided they set out to develop tastes for the right foods. The person who strictly avoids cake, coffee and tea with sugar and other fattening foods can quickly come to dislike them.

Some fat people will tell you that they have inherited their tendency to be fat. I say they have also inherited their cook books.

Many people fail to reduce because they have tried a few times, failed, have become discouraged or perhaps ill, and have decided they cannot reduce. They rationalize that staying fat is the best policy. Great strides have been made in scientific reducing in the past years until it is now possible to build and improve health while you are reducing; in fact a well-planned reducing diet is one of the most healthful diets you can eat. You can have plenty of food and need not be hungry, but the wall-paper-paste foods such as white bread, refined cereals, cakes and pastries of all varieties, which can in no way build health, must be avoided.

Thousands of people stay on low calorie diets all their lives and are unaware of it; they do it not from choice but because they enjoy non-fattening foods more than fattening ones. If your reducing is to be successful, you must join their ranks.

These are the people who do not like sweets and desserts. You see them push the mayonnaise to one side and they tell you they enjoy salads better without it. They care little for bread and butter. They look at you in horror when you offer them sugar for their coffee or tea. If you set out to change your food habits, you can soon learn to dislike these fattening foods just

as these people do.

It is not the occasional holiday dinner that puts on the pounds. It is certain types of food which you eat day after day, such as bread with every meal, too many desserts or too much candy, or sugar in tea and coffee. Unless you are willing to change your habits of eating, do not bother to reduce, for regardless of how many pounds you lose, you will gain them back as soon as you again eat an excess of high calorie foods. You can develop a taste for any food provided you eat only a little of it at first, increase the amount as you come to enjoy it, and eat that same food time and time again. Every food you now enjoy you have cultivated a taste for in exactly this. manner. Learning to enjoy non-fattening foods is far more important than the number of pounds you lose, for when you have actually acquired a taste for low calorie foods your weight problem is solved for a lifetime. Eating vital foods. rich in vitamins and minerals can help you to normalize your appetite.

Our first concern, therefore, must be in choosing foods which will make reducing easy for you and at the same time will build up your health. The food meeting those two requirements more than any other is yoghourt made of skim milk. When yoghourt is not available, drink buttermilk. Strained buttermilk or skim milk yoghourt is more filling than fresh skim milk. Any form of fat-free milk or a combination of buttermilk and yoghourt is all right as long as at least a pint, or better still a quart, is drunk daily. Most of the calories in milk are in the butterfat, which should be removed. Adults lack enzymes to digest milk sugar, yet tables giving the caloric content of milk and buttermilk invariably include those from milk sugar, which are available only to children. The calories obtained by an adult from a quart of fat-free yoghourt

are those from 34 grams of protein; since protein supplies 4 calories per gram, these amount to only 136 calories per quart. Fat-free yoghourt therefore is definitely not fattening. At the same time yoghourt is more filling than almost any other low caloric food; it remains in the stomach for some time, thus preventing hunger pains which occur only when the stomach is empty; and the B vitamins made by the bacteria in the intestines which are supplied by yoghourt are of tremendous importance in helping to keep your skin fresh while you reduce. In fact the easiest way for a person to control his weight and to prevent gaining is to drink a quart of fat-free yoghourt daily; he is thus kept satisfied and does not have that mad craving for fattening foods.

Make sure that your protein intake is high; proteins help to keep the body firm and prevent extra wrinkles, so in addition to your yoghourt have an egg daily and, if available, a serving of lean meat. These may be prepared any way except fried. Hard-boiled eggs are preferable to soft cooked ones because they stay with you longer. A good serving of cottage cheese may be used as a meat substitute or in place of the eggs. At least 60 grams of protein (see page 28) should be consumed daily: eat as much cheese and yoghourt as possible to keep your protein intake high. Most of the proteins of vegetable origin, such as nuts, beans, peas, and lentils, are high in calories; therefore the protein need largely must be met with fat-free proteins of animal origin. The number of grams daily should be computed, and any deficiency be made up by drinking yoghourt between meals as a substitute for water.

Aside from foods that supply proteins, vegetables and vegetable juices should make up the greater part of the reducing regime. Choose green or yellow vegetables most frequently. These vegetables have a high vitamin and mineral content which is essential to build your health, and their bulk helps to prevent hunger. Raw vegetables digest much less completely than do cooked vegetables; hence they should be used most generously. The following vegetables may be eaten in any quantity desired. Vegetables in the column on the left contain

3 per cent sugar, those on the right, 5 per cent sugar:

beets

asparagus
Brussels sprouts
celery
cucumber
egg-plant
kale
leeks
lettuce
spinach
summer squash

zucchini

cabbage
carrots
cauliflower
onions
pepper, fresh
pumpkin
radishes
string beans
tomatoes
turnips
vegetable jui

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Celery root and parsnips, which contain 10 per cent sugar, should be caten in moderate servings only and served no more often than once daily. Lima beans, peas, corn and potatoes are about 20 per cent sugar and should be avoided if you seriously wish to reduce.

Fruits contain much more sugar than vegetables. They should be eaten in restricted amounts during your reducing programme. Grapefruit, orange, fresh loganberries, raspberries, strawberries, blackberries, fresh pineapple, raw peaches, cantaloupe, and musk-melon can be used, but it is difficult to find servings of fruit which offer less than 100 calories. Apples, apricots, cherries, grapes, nectarines, orange juice, pears, and all canned fruits containing refined sugar supply by weight 15 per cent of sugar, whereas bananas and fresh figs, plums, and prunes are more than 20 per cent sugar; therefore these should be avoided if you have many pounds to lose. Dried fruits, all of which contain at least 75 per cent brown sugar, should be strictly avoided.

You must be sure to eat enough fresh fruit and vegetables to supply your needs for vitamin C. The food having the smallest number of calories and the greatest amount of this vitamin is fresh peppers, both green and red. You should learn to eat them like apples, as the Hungarians do, and add them generously to salads and vegetable juice cocktails. Although either

fresh or canned tomatoes or tomato juice offer much less vitamin C than peppers, they are usually available and so universally enjoyed that they become an excellent source. Drink as much tomato juice as you like and have tomatoes daily either stewed or in salads, soups, and aspics. Fresh vegetable juices are excellent sources of this vitamin if drunk immediately after they are made; their vitamin content will depend on the vegetables from which they are prepared. A grapefruit and an orange daily may be eaten to supply this vitamin if you do not have many pounds to lose, but they should be eaten whole rather than in the form of juice; their bulk fills you up, and eating the whole fruit occupies more time than drinking the juice, thereby helping to keep you unaware of limiting your food intake.

In order to protect your health and particularly to supply vitamin D, you should take fish-liver oil capsules. These contain only 4 calories each which is slight compared to 4,000 calories in a pound of fat. These capsules are definitely not fattening. An adult needs 1,000 units of vitamin D daily. Some fish-liver oil capsules offer this amount in a single capsule, but if you buy those of lower potency, take the number daily

which will supply 1,000 units of vitamin D.

The foods listed can supply all of your body needs except the vitamins of the B family. These vitamins are so important during reducing that their value cannot be overemphasized. If they are amply supplied, you can lose that constant craving for sweets which results when vitamin B₁ is so meagre that sugar cannot be used efficiently in your body. These vitamins help to give you vigour which will make you feel like exercising and hence help you to reduce faster. Best of all, these vitamins help to build and maintain the health of your skin, eyes, and hair so that the longer you reduce the more attractive you become. Unfortunately the ordinary sources of the vitamins of the B family (although actually poor sources) are high calorie foods: whole-grain breads, cereals, and foods such as macaroni, noodles, and spaghetti made of whole grains; beans, peas, lentils, and nuts. Wheat germ, having a much higher content of B vitamins than the foods already mentioned, can be used

by people having only a few pounds to lose, but it varies from 100 to 300 calories per half cup, depending upon the variety used. The food which offers the most vitamins and the least calories—only 20 calories per heaping tablespoonful—is powdered brewers' yeast. For the first week of your reducing regime, take a tablespoonful of yeast stirred into water or tomato juice after each meal. This amount can then be reduced to a tablespoonful daily, but you will feel better, have more pep, nicer skin, and build greater health generally if you continue the three tablespoonfuls daily. Should the powdered yeast prove disagreeable to you, try to take it in tablet form.

If you are serious about wanting to build your health and at the same time to lose unsightly pounds, eat only the foods already discussed. Avoid all denatured breadstuffs, pastries, desserts, sweets, fats in all form, nuts, gravies, and the high calorie vegetables and fruits. Realize that learning to enjoy low calorie foods—and you can learn to enjoy them only by eating them—is far more important than the number of pounds you lose. Think of your programme, not as a reducing diet, but as a regime which builds health and solves the weight problem for a lifetime. Your mind, you know, is like a radio dial in that you can tune in any station you desire: you can feel sorry for yourself and let your thoughts dwell on chocolate creams you are denying yourself, and eventually fail; or you can have a feeling of superiority, knowing full well you are tackling your problem with wisdom and that you are solving it once and for all by learning to enjoy low calorie foods so much that you will want to continue eating them throughout life. Again, an intelligent attitude determines your success or failure.

Plan varied, interesting, attractive meals for yourself. Be especially careful to eat between meals. Your midmeals should be near enough to the next meal to take the edge off of your appetite. The menus at the end of this chapter can show you how appetizing your meals can be.

Fresh carrot sticks, celery, green peppers or their juices taken between meals are important. These midmeal feedings prevent you from getting so hungry that you will want to overeat at

meal-time. They also increase your efficiency to such an extent that they should be continued throughout life.

After you have lost as many pounds as you desire you can add to your diet more fruits, fruit juices, cheeses, and perhaps a slice or two of whole-grain bread daily. In general, however, you should continue to choose your foods, first to build health and, second, for their low calorie content.

The speed with which you reduce will depend entirely upon how closely you adhere to the regime. From ten to fifteen pounds can be lost during a month; more rapid reduction is not desirable. The longer you follow the reducing regime the more you enjoy low calorie foods and the less trouble you will have in keeping off any unwanted pounds during the years to come. A person who has only ten pounds to lose and takes it off in two weeks often does not learn to enjoy low calorie foods enough to eat them indefinitely; hence he again gains and must usually fight weight until he learns to enjoy the foods on a reducing diet.

If you have fifty or more pounds to lose and feel it is impossible to reduce so much, set out to lose five pounds; when that is accomplished, set a goal of another five pounds, and continue

in this manner until you reach your ideal weight.

Start today and do not stop until your mirror shows a reflection which pleases your eyes and your head is held high with pride of accomplishment. Keep this one thought always in your mind: diet does it—it is impossible to fail.

REDUCING MENUS

Breakfast: 1 glass tomato juice

I egg, poached
I slice rye bread

clear coffee-if you like

I tablespoonful brewers' yeast stirred into liquid or in

tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass yoghourt or some raw vegetables

Luncheon: cottage cheese

finger salad of radishes, strips of green pepper, toma-

toes, celery, carrot sticks

I glass yoghourt

I tablespoonful brewers' yeast stirred into liquid

or in tablet form

MID-I dish of yoghourt with cinnamon and I teaspoon-

ful black molasses AFTERNOON: DINNER: fresh vegetable juice grilled steak, fat-free

short-cooked green vegetable

mixed green salad with I teaspoonful of oil in French

dressing demitasse

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

glass yoghourt and your brewers' yeast if Before

omitted during the day RETIRING:

Breakfast: sliced orange

grilled tomatoes

I slice of whole-wheat bread clear coffee-if you like

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

1.000 units of vitamin D concentrate

MIDMORNING: I glass yoghourt or some raw vegetables LUNCHEON: waldorf salad with a little French dressing

bran muffin I glass yoghourt

I tablespoonful of brewers' yeast stirred into liquid

or in tablet form

Mm-I glass yoghourt

AFTERNOON:

DINNER: fruit cup

carrot sticks and radishes young chicken, grilled short-cooked beet greens

apple sauce demitasse

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

I dish yoghourt with nutmeg and your brewers' BEFORE RETIRING:

yeast if omitted during the day

Breakfast: grapefruit

3 slices very crisp bacon 1 slice rye bread toasted clear coffee—if you like

I tablespoonful brewers' yeast stirred in liquid or in

tablet form

1,000 units of vitamin D concentrate

MIDMORNING: 1 glass yoghourt or some raw vegetables

LUNCHEON: white fish

combination vegetable salad

I dish yoghourt

I tablespoonful brewers' yeast stirred in liquid or in

tablet form

MID- 1 glass yoghourt

AFTERNOON:

DINNER: watercress salad

lamb chop

short-cooked spinach

celery sticks

fresh or stewed fruit

demitasse

I tablespoonful brewers' yeast stirred in liquid or

in tablet form

Before I dish yoghourt with I teaspoonful black mo-

RETIRING: lasses and your yeast if omitted during the day

Breakfast: sliced orange 1 soya muffin

clear coffee-if you like

I tablespoonful brewers' yeast stirred in liquid or in

tablet form

1,000 units vitamin D concentrate

MIDMORNING: I glass yoghourt or some raw vegetables

LUNCHBON: cottage cheese

carrot and parsley salad I dish yoghourt

I tablespoonful brewers' yeast stirred in liquid or in

tablet form

MID- I glass yoghourt

AFTERNOON:

DINNER: celery and tomato juice cocktail

shellfish, with lots of parsley

young green onions or carrot sticks

shredded string beans

demitasse

I tablespoonful brewers' yeast stirred into liquid or in tablet form

Before I glass yoghourt and your yeast if omitted during

RETIRING: the day

Breakfast: grapefruit sections

grilled tomato

clear coffee—if you like

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass yoghourt or some raw vegetables

LUNCHEON: I slice of cheese with

I slice of rye bread I glass of yoghourt

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

MID- I glass yoghourt

AFTERNOON:

DINNER: Hauser broth

carrot soufflé stewed tomatoes

Romaine salad with I teaspoonful French dressing

demitasse

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

Before I glass yoghourt and your yeast if omitted during

RETIRING: the day
Breakfast: tomato juice

I poached egg

I slice whole-wheat bread clear coffee—if you like

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass yoghourt or some raw vegetables LUNCHEON: white-fish salad with celery and parsley

sliced tomatoes

I glass chilled yoghourt

I tablespoonful brewers' yeast stirred into liquid or

in tablet form I glass yoghourt

Mm-

AFTERNOON:

combination salad DINNER:

> calves' liver and onions short-cooked spinach melon filled with berries

demitasse

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

I glass yoghourt and your brewers' yeast if omitted BEFORE

during the day RETIRING: Breakfast: sliced orange

1 scrambled egg

I slice rye bread toasted clear coffee-if you like

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

1.000 units of vitamin D cencentrate

MIDMORNING: 1 glass yoghourt or some raw vegetables cottage cheese and tomato salad LUNCHEON:

I glass yoghourt

I tablespoonful brewers' yeast stirred into juice or in

tablet form I glass yoghourt

Min-AFTERNOON:

vegetable soup DINNER:

baked soya beans and mushrooms

short-cooked spinach

stewed fruit with wheat-germ cookie

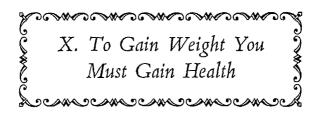
demitasse

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

I glass yoghourt and your yeast if omitted during Before

the day RETIRING:



EATING FOR A PERFECT FIGURE

Gaining weight is not merely a matter of eating more calories than one needs for normal energy. Most underweight people are too thin because they are not healthy. They should not expect to gain weight until their health is improved even though they eat a large amount of food. Usually their nerves are tense, causing them to waste energy. Often they lack appetite, and frequently their digestion and absorption are below par. When these abnormalities are overcome they gain their normal weight, usually without increasing the amount of food they have habitually eaten. Our greatest emphasis during a

gaining regime therefore must be on building health.

It is better to be slightly underweight than to be overweight. I have no intention of suggesting that you gain a single pound more than you actually need. A small amount of storage fat, however, is definitely advantageous both from the point of view of health and of aesthetics. A small amount of fat gives better contours to your figure or physique. A thin layer of fat under the skin helps to control body temperature and to protect the nerves, muscles, and blood vessels from injury. Storage of fat gives padding and support to the internal organs, particularly to the kidneys. In cases of severe underweight, the kidneys often drop from their normal position and must be repaired by expensive and painful surgery. Fat serves as a source of energy at any time when food is unavailable or when you have failed to eat as much as you need; thus fat saves the muscles from the destruction which occurs when they must be burned to supply energy. Aside from the small amount of fat needed for these reasons, your ideal weight is largely a matter

of personal preference. Authorities now recommend the weight for your height given in standard weight tables for the age of thirty. I would suggest that you retain the ideal weight for your height at the age of twenty-five, because slenderness is desirable and conducive to health.

If you wish to gain weight, emphasize the building of the greatest health possible rather than merely trying to put on pounds. First, see that your diet includes the nutrients which can help to keep your nerves relaxed at all times. Every time you are nervous or high strung, you waste energy by making needless, useless movements which require calories. Nervousness causes you to tense the muscles throughout your body, and the energy spent in tensing those muscles uses up wastefully a great deal of food.

Although each vitamin and mineral plays some part in helping you to relax, those most important appear to be vitamins D and B₆, calcium, and magnesium. The best forms of vitamin D for you would be milk, which can be made into yoghourt, together with cod liver oil or one of the delicious fish-liver oil malts which are on the market. Get daily, without fail, at least 1,000 units of vitamin D both winter and summer. In addition obtain additional vitamin D by taking as many sunbaths as you can.

Calcium, which is essential to the relaxation of both nerves and muscle tissue, can be supplied by one or more servings of any kind of cheese. The cheese may be added to salads, taken with fruit for dessert, or added to vegetables instead of butter. Calcium can also be added to the daily diet through the use of calcium concentrates. Be sure the concentrate you select also

contains phosphorus and vitamin D

Magnesium is undoubtedly more important in the relaxation of nerve and muscle than has been recognized. For example, experimental animals lacking this mineral become highly nervous, apprehensive, sleepless, and appear to go insane. It is probable that people under-supplied with magnesium pay for that lack by intense nervousness and restless, wakeful nights. Magnesium can best be obtained from intensely green leafy vegetables such as mustard leaves, parsley, spinach,

collards, kale, or broccoli, or from turnip, radish, or beet tops. Try to obtain at least one serving of these vegetables daily, short-cooked or in salads, or if you prefer have a tall glass of

fresh green vegetable juice.

If you lack appetite, do not force yourself to eat foods you do not desire, but take steps to stimulate your appetite and to allow it to become normal. Poor appetite may result from an undersupply of the vitamins of the B family, in which case the appetite becomes normal after sufficient B vitamins are obtained. In fact, the vitamins of the B family aid the person who wishes to gain in many ways. If the diet contains too few of these vitamins, too little hydrochloric acid is produced by the stomach. This acid is essential to both digestion of food and absorption of vitamins and minerals into the blood. Without enough B vitamins too few digestive juices and enzymes are produced, hence foods cannot be digested; too few contractions of the muscles of the intestinal walls occur, and without these churning movements the digestive enzymes are not brought into contact with undigested foods nor are digested foods brought into contact with the absorbing surface of the intestinal wall. In this case, what food is eaten is so incompletely digested that it fails to reach the blood. On the other hand, even massive amounts of B vitamins are not fattening because the person whose appetite, digestion, and absorption are already normal cannot be made more normal.

In order that you may have a normal appetite, excellent digestion and absorption of foods, and regular climination, your daily food must be unusually rich in the vitamins of the B family. These also supply vitamin B₆ which has a sedative effect upon the nerves. Eat at least a half cup of wheat germ daily, either uncooked as a cold cereal or cooked five minutes as a hot cereal. The wheat germ may also be eaten in the form of waffles or hot cakes. Although yeast is low in calories, it is such a rich source of the B vitamins that you will be wise to stir a heaping tablespoonful into your morning glass of orange or grapefruit juice. Black molasses, a valuable food which has not enjoyed the popularity it deserves, is rich in vitamin B₆, pantothenic acid, and many other vitamins of the B family. It

should be kept on the table and eaten at each meal. Learn to enjoy it as sweetening on your wheat-germ cercal, hot cakes, and waffles; eat it mixed with butter on bread, and stir it into milk. Use it as often as possible in your cooking. In addition to these foods, get still more B vitamins by eating only 100 per cent whole-grain breads and breadstuffs; by having nuts daily; and, when available, by serving liver and kidney each once a week. The amount of B vitamin supplied by the bacteria in the intestine, provided a pint of yoghourt is taken daily, is probably greater than that furnished by any one food.

Another food which is of special value to anyone wishing to gain weight is vegetable oil. Formerly vegetable oils were considered to be of little value aside from the calories they supplied, but recent research has shown them to be rich in vitamins B₆, E, K, and essential fatty acids. The essential fatty acids help to transport fat from the intestinal wall to the liver and to the storage depots on the body. Experimental animals lacking these acids remain emaciated even though they are force-fed a diet high in calories. Peanut oil is the richest source of the essential fatty acids, whereas corn oil is the richest source of vitamin B₆. All vegetable oils, however, are valuable. Use them not only for mayonnaise and salad dressing, but also to prepare short-cooked vegetables. Put a little vegetable oil into a pan, add perhaps a bit of garlic, and quickly wilt the green leafy vegetables so rich in magnesium, iron, and vitamins A and B₂; toss them as they wilt as do the Chinese, and serve them brilliantly green a minute later. Vegetable oils properly used can add many delights to your menus.

Do not make the mistake of stuffing yourself. As your appetite, digestion, and absorption improve and as your nerves relax, you can gain weight without eating more than you desire. Be careful not to fill yourself up by eating large amounts of cream and butter, for these foods quickly satisfy the appetite. Completely avoid all refined foods such as products containing white flour and sugar which cannot build health. Use black molasses as your favourite sweet. You will probably not only gain weight on such a regime but also gain energy, vitality, and

freedom from fatigue to an extent which you did not realize

was possible.

When you have gained all you wish, eat smaller amounts of bread, black molasses, vegetable oils, butter, and other high calorie foods. Put yourself on the Vital Diet and follow that regime throughout life.

Your menus for seven days might be as follows:

WEIGHT-GAINING MENUS

Breakfast: 8 ounces sweet fruit juice

a cup of cooked wheat germ eaten with black

molasses and top milk

I slice whole-wheat bread, toasted if desired

I glass milk, or hot milk beverage

I tablespoonful brewers' yeast stirred into liquid or in tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass of sweet fruit juice, vegetable Juice, or yoghourt

LUNCHEON: I fruit salad with peanut oil mayonnaise

Someler

Swhole-wheat bread with butter I glass yoghourt made of milk, or

I dish yoghourt flavoured with black molasses

__) I very ripe banana, or I tablespoonful black molasses

DINNER:

=)stuffed tomato salad ~ grilled liver with crisp bacon

short-cooked beet tops

short-cooked carrots sprinkled with parsley. fruit compôte with wheat-germ cookie

beverage

I tablespoonful brewers' yeast stirred into liquid Before or in tablet form RETIRING:

Breakfast: 8 ounces orange juice

> chopped dates and nuts with top of the milk whole-wheat bread and butter 🐛

I glass milk or hot milk beverage

I tablespoonful brewers' yeast stirred into liquid or in tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass sweet fruit juice, vegetable juice, or yoghourt

Luncheon: egg salad with watercress

sliced tomatoes with lemon and oil dressing

rye bread, buttered or

toasted with molasses or fresh fruit

MID- I glass sweet fruit juice or AFTERNOON: I tablespoonful black molasses

DINNER: fruit cup

grilled salmon short-cooked kale vitalized potatoes

green salad with lemon and oil dressing Brown betty with top of the milk

beverage

Before I tablespoonful brewers' yeast stirred into liquid

RETIRING: or in tablet form, or

I glass yoghourt flavoured with black molasses

Breakfast: * 8 ounces fresh fruit juice

I coddled egg

2 slices whole-wheat raisin toast with butter

I glass milk or hot milk beverage

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

1000 units of vitamin D concentrate

MIDMORNING: I glass sweet fruit juice, vegetable juice, or yoghourt Luncheon: shrimp or salmon salad with peanut oil mayonnaise

rye bread and butter

sliced banana with walnuts

I glass yoghourt

MID- I glass pineapple or grapefruit juice sweetened with

AFTERNOON: molasses

DINNER: cole slaw mixed with raisins and yoghourt dressing

chopped round steak mixed with wheat germ and

parsley

short-cooked spinach buttered

ice cream with berries

beverage

BEFORE I tablespoonful brewers' yeast stirred into liquid or

RETIRING: in tablet form, or

I glass yoghourt flavoured with black molasses

Breakfast: 8 ounces orange juice

steel-cut oats with wheat germ, banana, and top of

the milk

rye bread with butter

I glass vitamin D milk or hot milk beverage

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass sweet fruit juice, vegetable juice, or yoghourt

LUNCHEON: fresh fruit salad with nuts

whole-wheat bread with butter I dish yoghourt with cinnamon

MID- apricot or prune juice with a handful of peanuts

AFTERNOON:

DINNER: apple, nut, and celery salad

beef stew with potatoes and vegetables

buttered turnip tops

individual pie with whole-wheat crust, topped with

top of the milk

beverage

Before I tablespoonful brewers' yeast stirred into a glass

RETIRING: of your favourite juice, or

I glass yoghourt flavoured with black molasses

Breakfast: 8 ounces sweet fruit juice

grilled crisp bacon (drained) whole-wheat toast with butter I glass milk, or hot milk beverage

I tablespoonful brewers' yeast stirred into liquid or in

tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass sweet fruit juice, vegetable juice, or yog-

hourt

Luncheon: creamed chipped beef with parsley on whole-wheat

toast

fruit salad with honey

I glass yoghourt with cinnamon

MID- 8 ounces orange juice, or AFTERNOON: 1 tablespoonful black molasses

DINNER: tomato salad

grilled salmon, mackerel or herring

cauliflower with cheese

To Gain Weight You Must Gain Health

small new potatoes with parsley ripe bananas with top of the milk

beverage

Before I tablespoonful brewers' yeast stirred into a glass of

RETIRING: your favourite juice, or

I glass yoghourt flavoured with black molasses

Breakfast: 8 ounces pineapple juice

scrambled eggs

wheat-germ muffins with butter I glass milk or hot milk beverage

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass sweet fruit juice, vegetable juice, or yog-

Luncheon: tomato stuffed with cream cheese

whole-wheat crackers milk or yoghourt

MID- fresh sweet fruit and a handful of peanuts

AFTERNOON

DINNER: chilled fruit cocktail liver and bacon

short-cooked beet tops

potatoes steamed in their jackets head lettuce with peanut-oil dressing

apple sauce with honey and top of the milk

wheat-germ cookie

beverage

BEFORE I tablespoonful brewers' yeast stirred into a glass

RETIRING: of your favourite fruit juice, or

I dish yoghourt with black molasses

BREAKFAST: 8 ounces orange juice

omelet

2 slices whole-wheat bread with butter 1 glass milk or hot milk beverage

I tablespoonful brewers' yeast stirred into liquid or

in tablet form

1,000 units of vitamin D concentrate

MIDMORNING: I glass sweet fruit juice, vegetable juice, or yoghourt Luncheon: apple and celery salad sprinkled with a tablespoonful

of finely ground nuts

To Gain Weight You Must Gain Health

whole-wheat bread with butter I dish yoghourt with cinnamon

MID- I tablespoonful black molasses in hot or cold milk

AFTERNOON:

DINNER: watercress salad with cream dressing

baked soya beans

baked apple with black molasses (serve with beans)

buttered carrots beverage

Before I tablespoonful brewers' yeast stirred into liquid

RETIRING: or in tablet form, or

1 dish yoghourt with black molasses

FIGHTING FATIGUE WITH DIET

Few rewards which radiant health offers are so valuable to you as boundless energy or freedom from that tired feeling. Such energy is one of the principal factors in helping one to be successful, in getting fun out of life and having zest for it. The people who have accomplished great things and the ones who are the most interesting are those who have the greatest energy. You, too, can be entirely free from fatigue and possess energy which knows no bounds provided you have the will and the persistence to work for perfect health.

There are not one but many causes of fatigue. Every nutrient needed to build health plays some role, either directly or indirectly, in the production of energy and the prevention of fatigue. If fatigue is to be avoided, the diet must be complete in every respect. When the diet is inadequate, fatigue largely results in two ways: first, the production of energy is interfered with; second, energy is wasted because of nervousness, irritability, and tenseness.

THE VERSATILE VITAMIN B

Perhaps the most common reason for fatigue due to interference with energy production is a lack of the vitamins of the B family. Many of these vitamins play a role in making you energetic. For example, if vitamin B_1 is lacking, energy production from sugar is either slowed down or stopped, and you suffer from fatigue and listlessness. In experiments in which people have lived on diets adequate in every other respect but deficient in vitamin B_1 or niacin or biotin or a number of other B vitamins, the first symptom noticed is fatigue. Hence, if you do not have as much energy as you would like, choose

foods rich in these vitamins. Eat a half cup of wheat germ each morning for breakfast, and take a heaping tablespoonful of yeast stirred into fruit or vegetable juices, milk, or water after each meal and before going to bed for two weeks. Look upon brewers' yeast as a food and continue to use it daily throughout life. Although some people find yeast unpalatable, they notice such a marked pickup when it is taken that few give it up after once giving it a fair trial.

IRON FOR ANÆMIA

Anæmia is a frequent cause of fatigue, especially among women. In this case there is either too little colour in the blood or too few red blood corpuscles, or both, to be able to carry oxygen to the cells; without sufficient oxygen, energy cannot be produced normally and fatigue is constant. If your cheeks, ears, lips, and gums do not have good colour, go on a campaign of building red blood. Not only iron and copper but also iodine, calcium, and vitamins A, C, B₆, and niacin play important roles in building blood. It is best to follow the Vital Diet, emphasizing especially blackstrap molasses, the richest source of both iron and copper and also rich in calcium and vitamin B_a. If you desire, you can take tablets daily of some iron salt such as ferrous mucate or ferrous sulphate which can supply 200 milligrams of iron at very small cost. If your diet is entirely adequate and you are harbouring no infections which cause destruction of your blood cells, within two or three weeks your blood can be so normal that not only will you have more energy but your skin will look more alive.

NORMALIZE YOUR BLOOD PRESSURE

Another common cause of fatigue is low blood pressure. Just as water pushes against the walls of a garden hose, so does the blood push against the walls of the blood vessels. The walls of the blood vessels are porous, and the liquid part of the blood, or plasma, passes through them. Dissolved in this liquid are vitamins, minerals, and all foods. It is the force of normal blood

pressure, therefore, which pushes food and oxygen into all cells. When the blood pressure is below normal so little food and oxygen reaches the cells that energy cannot be produced efficiently and fatigue naturally results. This fatigue is especially noticed early in the morning because the blood pressure drops especially low during the night when a person is particularly relaxed. If you suffer from early morning fatigue and find it difficult to bounce out of bed, make every effort to get your blood pressure up to normal. Again the vitamins of the B family are of extreme importance. In addition to all other sources which you can work into your diet, take a tablespoonful of yeast after each meal and before retiring.

Aside from lack of B vitamins, the most common cause of low blood pressure is deficiency in protein. The walls of the blood vessels are made of protein, and they cannot be kept strong unless sufficient protein is eaten. Vegetarians, whose protein intake is especially low, often suffer from low blood pressure. Animal proteins-eggs, milk, cheese, and meatsincrease low blood pressure to normal much more quickly than do proteins from vegetable sources such as beans, peas, lentils, and grains. Use the tables on pages 28-9 to count the grams of protein you consume every day for a week. By that time you will know the protein content of foods so thoroughly that you can estimate the amount needed. For at least one month, get 60 grams of animal protein daily. Eat as many eggs as you can get-served either for luncheon or dinner. Get one or more servings of cheese daily; perhaps cottage cheese added to a salad for luncheon, and cheese with fruit for dessert at dinner. Try to have a large serving of meat every day. Drink an entire quart of yoghourt daily. Before going to bed, count or estimate the grams of protein you have obtained; if the total is below 60, have more yoghourt or some cheese with whole-wheat crackers, thus bringing the total to that desired. As soon as you feel so energetic that you are eager to hop out of bed in the morning, follow the Vital Diet without modifications.

EAT MORE OFTEN

Another common cause of fatigue is failure to eat frequently enough. It has been found that people who eat small midmeals are much freer from fatigue, think more clearly, and are more efficient than those who eat only three meals daily. These midmeals should consist of fruits, either fresh or dried, fruit or vegetable juices, raw vegetables, yoghourt with wholegrain crackers, or small sandwiches of whole-grain breads. The midmeals should be small, and less food should be eaten at regular meals unless a gain in weight is desirable. They should be taken at definite times, such as 10 a.m., 3 or 4 p.m., and before retiring. Foods containing fats and refined sugars should be strictly avoided because they are too satisfying to the appetite. The quickest pickup can be obtained from a midmeal of fruits or fruit juices, which contain sugars needing no digestion before they can be used to produce energy. The most sustained pickup results from a midmeal of bananas or whole-grain breads or crackers or food containing starch, which will digest slowly and gradually release sugar for energy over a period of several hours. At any time you feel more tired before luncheon or dinner than you do after either meal, you can be sure that you have not eaten frequently enough to supply food needed to produce sufficient energy.

GET MORE VITAMIN C

Vitamin C also helps to prevent fatigue. In one experiment a large group of soldiers were given 300 milligrams of vitamin C daily for one month in addition to that received from ordinary foods. At the end of that time they were sent on manœuvres with a similar group of men not given the extra vitamin. All of the soldiers carried heavy packs, first hiking many miles and later climbing a mountain. The group not given vitamin C suffered severely from fatigue, and their recovery from fatigue was slow. The vitamin C group experienced almost no fatigue, and what little they did feel quickly disappeared. Hence if you wish to be free from fatigue, get at least 200 or more milligrams of vitamin C daily.

EAT MORE SALT IN HOT WEATHER

One of the principal causes of hot weather fatigue is the loss of salt through perspiration. Hot weather fatigue can be prevented by eating salty foods such as salty peanuts, popcorn, and soya beans. Salt should be kept by the drinking water during hot weather, and at least one well-salted food should be served at each meal. The practice of eating salt on cantaloupe, water-melon, and grapefruit during hot weather is an excellent one. If it is impossible to get salty foods between meals, a salt tablet should be taken with every drink of water. All salt used should, of course, be iodized. For the last twenty years I have taught my students to use an iodized vegetable salt in place of the ordinary white salt.

There are many other factors which interfere with the energy production and hence result in fatigue. For example, if iodine is undersupplied, the thyroid gland does not produce a hormone necessary before energy can be produced; fatigue is severe. Lack of either iodine or vitamin B₁ allows the heart to beat so slowly that insufficient oxygen reaches the cells and energy cannot be produced efficiently. Vitamin B₁ and other vitamins of the B family are often destroyed by bacteria which may be hiding in a dead tooth or diseased tonsils; again energy production is interfered with. Phosphorus acts as a carrier of sugar in the body, and if phosphorus fails to reach the blood, as it does when vitamin D is lacking, fatigue results. For this reason at least 1,000 units of vitamin D should be had daily. In short, if your daily regime supplies all the needs of the body, energy is produced normally, and fatigue becomes unknown. The Vital Diet has been planned to include all nutrients necessary to produce energy efficiently.

LEARN TO LET GO

The second major cause of fatigue, which can result even though energy is produced normally, is that unusually large amounts of energy are wasted. A tremendous amount of energy is required when muscles are continuously tensed, ready for

immediate action; only a fraction of that amount is used when the muscles are relaxed. Nerves do not become tired, whereas muscles tire rapidly. The person who cannot relax and who holds himself tense has all of the muscles of his body more or less contracted. He is often tense both during the day and also at night when his sleep is fitful and restless. To maintain this tension, food is continuously burned; lactic acid accumulates more quickly than it can be carried to the liver to be converted to body starch, hence it acts as an irritant; fatigue results which becomes progressively more severe. Persons suffering from such fatigue are high strung, nervous, and probably irritable. The only way to stop such tension and irritability is to learn to relax.

Lack of certain nutrients cause muscular tension. For example, if calcium is undersupplied, nervousness, irritability, and insomnia result; the muscles are held tense not only during the day but also during the night, and the person rolls and tosses until morning. All calcium foods, such as yoghourt and cheese eaten once or twice daily, and at least 1,000 units of vitamin D often help to give quick relief.

Animals lacking magnesium become highly nervous, restless, excitable, apprehensive, and sleepless; if the magnesium-free diet is given them over a long enough period, a condition similar to insanity occurs and convulsions often take place. Such symptoms, even in their mildest form, are conducive to extreme fatigue. Since our most dependable source of magnesium is brilliantly green leaves, such as turnip and beet tops, mustard greens, spinach, kale, and broccoli, so little eaten and frequently disliked especially by men, a lack of this mineral is undoubtedly an important cause of fatigue resulting from muscular tension. The high-strung, nervous person, therefore, should eat daily at least one serving of short-cooked greens and a salad of intensely green leaves. Men who look with disdain on such foods, often considering them 'rabbit food,' pay for such an attitude with fatigue, tension, and irritability.

It has been found that vitamin B₆, or pyridoxin, has a sedative effect upon the nervous system and is a major factor in maintaining relaxation. Dr. Spies of the University of Cincinnati studied a group of people who suffered from exhaustion,

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extreme nervousness, excitability, irritability, apprehension, and insomnia. These people had been given other vitamins of the B family except vitamin $B_{\rm e}$. When this vitamin was given them, their relief from fatigue was dramatic. Although they had been unable to sleep, they then slept like babies. One person who had been so exhausted that he could walk only a few steps walked four miles the same day the vitamin $B_{\rm e}$ was given. This experiment and other research indicate that vitamin $B_{\rm e}$ is extremely important in fatigue prevention.

In order to supply the needs for vitamin B_6 , brewers' yeast, wheat germ, and black molasses should be had daily. Cornoil, the richest source of this vitamin, should be used for salad dressings. Only 100 per cent whole-grain breads and cereals should be used. Vitamin B_6 is lost during refining, and it is not put back in fortified flour and bread. Nervous symptoms, leading to fatigue, have increased progressively since the milling of grains began, and in all probability the tensions said to be due to our fast pace of living and to modern civilization are little more than widespread deficiencies of vitamin B_6 .

It has been shown repeatedly that the person whose diet is inadequate, especially in the vitamins of the B family, worries, becomes depressed, fearful, apprehensive, and has forebodings of impending tragedy. These mental symptoms are not conducive to relaxation. Such a person keeps his muscles tensed, and his mounting fatigue becomes severe. Thus a dietary lack can be the indirect cause of fatigue resulting actually from mental attitudes. On the other hand, fears, frustrations, worries, boredom, and other mental-emotional factors can so upset an individual that his appetite fails, his digestion and absorption are interfered with, and dietary deficiencies follow, making a vicious circle; as the diet becomes worse, worries are exaggerated; as worries become more severe, the diet becomes worse. The body-mind cannot be separated, either in function or in nutrition. So it is that the mental attitudes and general adjustment to life become major factors in fatigue prevention. The more happy and well adjusted the person, the less fatigue he suffers. Such factors, however, are beyond the scope of this book. The reader is referred to two excellent

American books, How to Get Rid of Fear and Fatigue, by Dr. Edward Spencer Cowles, and Two Lifetimes in One, by Marie Benyon Ray.

Much fatigue can be prevented if a person continuously makes a conscious attempt to relax. Droop occasionally and let down, like a sack of meal. Play that you are a rag doll, without bones or muscles. Unless your duties demand alertness, be lazy, relaxing every muscle in your body. Be thrifty with your energy when it is not needed, then you can be a spendthrift when you want to work or play.

Realize that fatigue can be prevented. It is foolish indeed to tolerate it. Get rid of it, once and for all. Boundless energy is a keynote of the radiant health which can be yours.

XII. Beauty Is As Beauty Eats

SPECIFIC FOODS FOR THE SKIN, HAIR, EYES, AND TEETH

There have been numerous explanations as to why Eve succumbed to temptation in accepting the apple in the Garden of Eden. Assuming that Eve possessed the inherent desire for beauty which is shared by her modern sisters, I have often wondered if the lure held out to her was not the fact that the apple would be good for her complexion.

Several years ago it was my privilege to be associated with one of America's foremost beauticians in the establishment of a fabulous 'beauty farm' in Maine where the hope for true beauty was held out to any woman who would follow the regime laid out for her. My far-sighted associate who had gained fame and a fortune by devising the ultimate in external aids to beauty now realized that true beauty came from within and was a reflection of inward health which no amount of creams, rouge, or lipstick alone could duplicate.

In the most beautiful surroundings, with every modern luxury at their command, the clients of this exclusive beauty farm were attended by a staff of experts in all phases of beauty culture, but the all-important aspect of inward health was given first consideration. I laid out a strict diet regime for each and every client. Fresh vegetables and fruits were gathered from the farm and carefully prepared by a Danish cook so that all of the beauty-giving vitamins and minerals would be available to give lustre to madame's hair, sparkle to her eyes, and a warm glow to her skin. This was the beginning of the 'Eat and Grow Beautiful' idea which is now an important part of every well-known beauty salon on New York's Fifth Avenue.

Newspapers and the smart magazines of the country hailed

the idea as 'revolutionary,' 'unique,' 'modern,' but to me it was perfectly natural that diet, health, and beauty should walk hand in hand. For years similar ideas had been used in developing champions in the animal world. We all know how painstakingly a fine racehorse is fed his special scotch oats and carrots, how the fowl fancier feeds his chickens a special vitamin-rich mash, and how carefully the dog show champions have their diets supervised. How strange that man, the crown of creation, should have been the last to realize that diet does it.

WHAT YOUR SKIN NEEDS

Since a good skin is the reflection of inner health, let us see how your daily diet can help you. Every food recommended in the Vital Diet plays some role in maintaining the health of the skin. For example, if your skin is unusually dry and perhaps rough, or if you have blackheads and whiteheads, you are probably lacking sufficient vitamin A. In this case, you might get 200,000 units of this vitamin daily for two weeks in addition to the Vital Diet; then decrease the vitamin A to 50,000 units daily. Lack of vitamin A is usually the cause of boils, carbuncles, impetigo, and any other skin infections, and massive doses of the vitamin should be taken until such conditions are completely cleared. Capsules of fish-liver oil containing from 27,500 to 50,000 units of vitamin A are best to use in such cases; these should be taken directly after meals.

A lack of vitamin A is also frequently responsible for pimples or acne, although many other causative factors may enter. Pimples or acne are caused by bacteria getting to and feeding on dead cells in the lower layers of skin, and may result from any deficiency or combination of deficiencies which allows these cells to die. For example, if anæmia exists, the cells die because too little oxygen reaches them; if a person is deficient in iodine or vitamin B₁, circulation may be slowed down to the extent that these cells are not well supplied with blood. Acne also results when the vitamins of the B family are undersupplied. The person with acne, therefore, should follow the Vital Diet except that he increases his intake of iodine, iron,

copper, and adds vitamin A and the vitamins of the B family in massive doses. He should strictly avoid all refined foods and use black molasses as his only sweet. Acne during adolescence is caused by rapid growth making the dietary requirements unusually high, and can be completely avoided if the diet is kept complete.

All the vitamins of the B family are important in producing beautiful skin. As already mentioned, vitamin B₁ aids skin health by keeping the circulation normal. A mild lack of vitamin B₂, or riboflavin, continued over a long time causes brown pigmentation, or liver spots, to appear on the skin; if generous amounts of vitamin B₂ (as much as 15 milligrams daily) are given over a period of six months or a year, these ugly spots usually disappear. Vitamin B₂ deficiency, however, is difficult and slow to overcome, and larger amounts of the vitamin appear to be needed than was formerly thought necessary. A quickly produced and rather severe riboflavin deficiency results in oily skin and hair and small deposits of fat under the skin of the cheeks and forehead and behind the ears. A still more severe deficiency causes the skin under the nose and at the corners of the eyes and mouth to crack and become sore.

A lack of vitamin B_6 , or pyridoxin, leads to a dermatitis, or eczema, which usually first appears on the ears, elbows, knees, hands, and ankles. As the condition becomes more severe, it may spread over the entire body. A lack of niacin also causes an eczema type of skin eruption with brown pigmentation, largely on the face, forearms, and legs. Lack of the newer B vitamins, pantothenic acid, para-aminobenzoic acid, and biotin, causes types of eczema which can be corrected when the vitamins are generously added to the diet. Since seven vitamins of the B family are directly related to the health of the skin, few foods can improve the skin so rapidly as those rich in these vitamins. Even the person whose skin seems smooth and healthy usually notices improvement in texture and aliveness a week after adding two or more tablespoonfuls of brewers' yeast to his daily diet. Persons with definite eczema should take a tablespoonful of yeast stirred into unswectened lemonade,

citrus juice, or water after each meal, between each meal, and before bed for an entire month. If the diet is adequate in all other respects, the eczema is usually gone by the end of a month's time.

A skin rash, or eczema, very common in babies occurs when essential fatty acids, found in vegetable oils, are undersupplied. Such a condition can be quickly corrected by giving the child peanut oil mixed with the formula or fed directly from a spoon. Since most adults eat salad dressings made of vegetable oils, eczemas caused by lack of fatty acids are less frequently found among them. Babies are also susceptible to skin conditions caused by too little vitamin A and those of the B family. Whatever the cause of the skin condition, if the dietary regime meets all the body needs, the skin quickly becomes beautiful. Allergies sometimes take the form of skin abnormalities. These are discussed in Chapter XV.

ARE YOU STARVING YOUR HAIR?

The beauty of your hair also depends on your obtaining sufficient amounts of all body needs day after day. Animals fed on a diet supplying all the body requirements except one show abnormal coats regardless of what vitamin, mineral, or other essential nutrient has been omitted from the diet. For example, hair is made of protein, and before hair can be luxuriant, adequate protein must be eaten. A lack of vitamin A causes the hair to be coarse and ugly; a lack of some of the B vitamins, of iron, copper, and iodine, causes the hair to fall out; lack of other B vitamins causes the hair to grey prematurely. If you want attractive hair, follow the regime suggested in the Vital Diet, being careful to omit no detail.

The vitamins that change grey hair back to its natural colour are of particular interest. Three of these vitamins are known, all belonging to the B family: pantothenic acid, sold under the name of calcium pantothenate, usually in 10 milligram tablets; para-aminobenzoic acid, which has recently been released for sale; and folic acid, which will soon be available. Of the three, folic acid appears to be most important. Many people have

taken pantothenic acid and para-aminobenzoic acid and some have had their hair restored to its natural colour, but as a whole the results have been disappointing. In order to obtain satisfactory results, all three of the vitamins should be supplied at one time, preferably in a form giving all the B vitamins, such as yeast, wheat germ, and liver. However, since folic acid is quickly destroyed by heat, these foods contain it only when the yeast has been dried in vacuum as special brewers' yeast, powdered or in tablet form, and when the liver and wheat germ are eaten uncooked. The three anti-grey hair vitamins, cspecially para-aminobenzoic acid and folic acid, can be produced in the intestinal tract by bacteria obtained from yoghourt and other Bulgarian culture milks. If you are serious about wanting your hair to change back to its natural colour, drink a quart of yoghourt daily and have a tablespoonful of brewers' yeast after each meal. Should you wish to take tablets of calcium pantothenate and para-aminobenzoic acid, do so in addition to the yeast and yoghourt and not as a substitute for them. One of my students, a man fifty-two years old, whose hair was white, had so much of the natural colour restored after six months of the yoghourt-yeast regime that his friends accused him of dyeing his hair. Another, a woman of sixty. whose hair was a salt-and-pepper grey, lost much of her grey hair after only four months' time. It must be remembered, however, that if deficiencies of these vitamins are allowed to occur after the colour of the hair has once been restored, the colour will again become grey; therefore yoghourt, yeast, and the foods rich in the B family should be continued indefinitely. Nothing has fired the imagination of the women in America so much as the articles about overcoming grey hair. I went to investigate these experiments at the Good Housekeeping Institute and could see with my own eyes that they were actually successful.

New Yorkers interested in this anti-grey hair experiment should by all means see these test animals for themselves. The doctor in charge of these experiments told me that there are several other factors in bringing grey hair back to its natural colour. For instance, anæmic women, I was told, do not get

the same results when taking pantothenic acid as do those who have a normal blood count and hæmoglobin. It is therefore wise to add iron to an otherwise adequate diet. Dr. Brady, who writes a most interesting health column, recommends the addition of iodine in the form of sea vegetables. I, personally, also believe that iodine can be of value in hair difficulties.

Bald-headedness in men will in all probability be accepted some day partly as a nutritional deficiency. There is a vitamin of the B family known as inositol, the lack of which causes animals to lose their hair. When inositol is again added to their diet, a new, healthy coat of hair grows in. Interestingly enough, male animals lose their hair in half the time female animals do, showing that the male needs twice as much of this vitamin as do the females. The effect of this vitamin upon the prevention or correction of bald-headedness in men has not been adequately studied, but any man having trouble with his hair would be wise to eat wheat germ, brewers' yeast, liver, and especially blackstrap molasses, the richest known source of inositol. The pure vitamin has been used in a few cases of bald-headedness with promising results; new growth has been seen within two months, and healthy hair of natural colour slowly fills in from the back forward and around the edges of the bald spot toward the centre. The amount of this vitamin required is not known, but it is not toxic even when massive doses are taken.

One of my students, a man of forty-six, had been almost bald for about ten years. Because of general exhaustion, neuritis, and multiple deficiencies of the vitamins of the B family, he began eating a half cup of wheat germ each morning for breakfast and getting a quart of yoghourt daily. He also took a tablespoonful of brewers' yeast after breakfast, dinner, and before bed and had some blackstrap molasses at each meal he ate at home. About three months later his wife noticed that new hair appeared to be filling in his bald spot, which had been shiny and entirely free from any hair. At the end of eight months the edges of his bald spot had filled in with strong but fine hair about an inch long. He became so enthusiastic and pleased about his progress that his wife predicted that if their house were to burn down at a time he was accustomed to eat

foods rich in the B vitamins he would stop fighting the fire to eat vitamins and let the house burn.

Research would indicate that women have a low requirement of inositol. Although this vitamin may help to stimulate the growth of a woman's hair, its lack is probably not a major cause of slow growth. Women are frequently deficient in iodine and vitamin B₁, either of which can slow down circulation to the scalp to such an extent that hair may fall out and new hair grow in only slowly. Falling hair is also associated with anæmia, common among women. Many of my students who have kept their diets adequate in iodine, the B vitamins, and iron have reported better growth of hair. People whose crowning glory looks more like a bird's nest are amazed how the hair improves when the Vital Diet is followed.

YOU CAN FEED YOUR EYES

Your eyes are a mirror of your general health. Beautiful sparkling eyes are as much a part of radiant health as is abounding energy. On your blue Mondays, your eyes are dull, their lustre gone. During sickness, the eyes are the first to tell their story of pain. If you learn to watch people's eyes you can know how they feel without asking them.

Probably every hody requirement—every vitamin, every mineral, every amino acid—plays some part in the health of the eyes. A lack of certain vitamins, however, quickly results in visual abnormalities. The effect of vitamin A upon the eyes, for example, is becoming well known. Vitamin A is used, much as is a film in a camera, in photographing the objects you see. As light strikes the eyes 'a picture is taken,' and vitamin A, like the film, is used up. If vision is to remain normal, more vitamin A must be continuously supplied by the blood; the blood content in turn must be continuously supplied by your food.

If vitamin A is undersupplied, your eyes become sensitive to bright lights; you will feel more comfortable wearing dark glasses. You may suffer from visual fatigue—and what can make you tire more quickly than eye strain? Although you may not notice it at first, your night vision will probably not

be up to par. You may have difficulty in finding a seat in a darkened theatre, or stumble over objects that the children have failed to put away. If you drive at night, the lights from oncoming cars will blind you momentarily, and your slow accommodation to the dark road may cause you to become an inefficient driver, temporarily running the chance of serious accidents.

If a deficiency of this vitamin becomes severe, visual fatigue and sensitivity to light grow progessively more pronounced. The eyes ache; the eyelids burn. Sometimes you can feel the very roundness of the eyes, like glowing coals. Such eyes often become infected.

To keep the eyes normal and sparkling, an adult should have at least 5,000 units of vitamin A daily, although 10,000 units is undoubtedly more ideal. The person who uses his eyes for long hours or must work in either bright or dim light requires more of the vitamin than one who uses his eyes little. If a mild deficiency exists and 100,000 units or more of the vitamin is taken and is well absorbed, vision becomes normal again within a few hours. To correct a severe deficiency, physicians often recommend as much as 100,000 units daily for 4 to 6 weeks.

Abundant vitamin A also adds to the beauty of the eyes. This vitamin is essential to the health of certain tissues, known as mucous membranes, which line such body cavities as the tear ducts and tear glands. Healthy mucous membrane is self-cleaning. It is the moisture secreted by this membrane, or the normal flow of 'tears,' which determine the highlights, the sparkle, the charming play of shadows in the eyes. Furthermore, squinting due to sensitiveness to light can cause eyes to be half hidden much of the time, even though they may be large and beautiful when widely opened.

Another vitamin, riboflavin, or vitamin B₂, is necessary for visual health. A physician recently referred to me a sweet old lady who suffered from a typical riboflavin deficiency. She complained that her eyelids often burned and stung; sometimes they became red; occasionally they were swollen. If she used her eyes much, they felt as if there were grains of sand under the lids; they watered easily, as if she had just yawned,

especially when in bright light or a cold wind. Although her night vision was normal, she had difficulty in seeing in dim light, a condition spoken of as twilight-blindness. If she strained her eyes, they became bloodshot. As a result of her visual difficulties, she had given up sewing, knitting, reading, and even denied herself the pleasure of an occasional movie; her inactivity made her feel old, useless, and as if her life were almost over. A few weeks after she had eaten an adequate diet fortified with three milligrams of riboflavin taken with each meal, between each meal, and before bed, not only did her eyes become normal, but her activity increased, she was exuberant and happy. It was as though she were ten or fifteen years younger.

This woman, like hundreds of thousands of others, had explained away her difficulties with the treacherous phrase, 'It's my age,' thereby bumping smack into the stone wall of doing nothing about it. What she had not realized was that such deficiencies are common among children of low-income families; that they are rampant among poorly fed college students; that the deficiency has no relation to age. Although riboflavin lack is prevalent among men and women over 60, it is only that they cat less food because of inactivity and that their food habits are often faulty. Since the richest sources of riboflavin are milk, buttermilk, yoghourt, and cooked green vegetables, abnormal vision due to-riboflavin deficiency can be found in almost any person who fails to eat these foods.

Nervous tension, certainly a sign of ill health, can cause the vision to be abnormal. The lens of the eye is encircled by and attached to tiny sphincter muscles; these muscles contract when tense, causing the lens to bulge outward and near-sightedness to result. Near-sightedness can be produced in puppies merely by putting them on a diet deficient in calcium and vitamin D, both needed to keep nerves and muscle tissue relaxed. When the faulty diet is replaced by an adequate one, the eyes become normal. Similarly, surveys have shown that 60 per cent of school children coming from poor homes, where milk is undersupplied and vitamin D is usually lacking, suffer from near-sightedness as compared to only 10 per cent of the children coming from well-to-do homes. If you wish your vision to

remain normal, see that both calcium and vitamin D are ade-

quately supplied in your diet.

There can be little doubt that cataracts result from a careless choice of foods. In countries where the diet is unusually poor, notably in India, cataracts are more widespread and appear at a much earlier age than in our country. Cataracts can be produced in animals by a diet lacking vitamin B₂ (riboflavin) or vitamin C or the amino acid tryptophane. When the cataracts are still in their beginning stages, an abundant amount of the missing nutrient causes them to disappear; if the deficiency—or deficiencies—is allowed to become severe, permanent blindness may result. As one becomes older and eats less than in earlier years, the food should be chosen with particular care to supply the cataract-preventing nutrients: milk and green vegetables to supply riboflavin; citrus fruits and juices to furnish vitamin C; and eggs, milk, cheese, and meats to ensure tryptophane.

The person who wishes to have beautiful eyes and normal vision might choose his daily menu somewhat as follows:

BREAKFAST: fruit or fruit juice; 3 or 4 tablespoonfuls of wheat-

germ; I or 2 eggs in addition to or instead of cereal; whole-wheat toast if desired; milk or milk drink; fish-liver-oil capsules supply 25,000 to 30,000 units

of vitamin A, 1,000 units of vitamin D.

MIDMORNING small amount of fresh or dried fruit or I tablespoon SNACK: of brewers' yeast stirred into water, milk, or fruit

juice.

Luncheon: egg (if none for breakfast) or checse, fish or sea food

in salad, or sliced cold meat; large green salad; milk, buttermilk, or yoghourt; fruit if desired.

MID- small serving of fruit, milk, buttermilk, or yoghourt

AFTERNOON SNACK:

DINNER: fruit, seafood, or vegetable juice cocktail if desired; soup or bouillon if desired; meat, fish, fowl, or meat substitute; I or 2 cooked vegetables; fruit or vegetable salad; milk, buttermilk, or yoghourt;

fruit for dessert.

When you plan your menus remember that you determine the beauty and efficiency of your eyes by the foods you choose, not only now but during the years to come. Give your friends a chance to exclaim, 'What lovely eyes you have!'

TEETH NEED CALCIUM PLUS VITAMIN D

Good teeth are so much a part of one's health and appearance that when a new movie star is brought out to America the first place he or she is sent is to a dentist. Like the skeletal development, the appearance of the teeth and mouth is largely determined during the years of growth, depending on the amount of calcium, phosphorus, and especially vitamin D in the diet. The condition of your teeth after they are once formed depends upon the foods you eat from day to day. Dental decay, the destruction of bone around the teeth, and infections of the gums can be prevented. In fact, if your diet is excellent, your teeth and jawbones can be made harder and healthier as the years go by.

Every food which builds health appears to play some role in the prevention of tooth decay. Examinations of the mouths of large groups of children in Portland, Oregon, and in San Diego. California, showed those in San Diego had only half as much decay as the children in the city obtaining less vitamin D from sunshine. Much decay could be prevented if all persons, whether children or adults, obtained at least 1,000 units of vitamin D daily. Analysis of the diets of hundreds of people has shown that the average person gets no more than 5 to 50 units of this vitamin daily. If you are so careless about your diet that you fail to make sure this vitamin is included daily, do not expect your teeth to remain free from decay or your jaw-

bones to stay well calcified.

Calcium, sometimes called the 'staff of minerals,' is essential to maintain dental health. In Deaf Smith County in Texas, where the calcium content of the soil is unusually high, investigators could not find a man, woman, or child with cavities. If milk is given daily to children and yoghourt or cheese is used by adults sufficient calcium can be obtained. When calcium is

undersupplied, it is taken from the dentin of the teeth, leaving them susceptible to decay; the gums recede as the jawbones break down and the teeth often become loose and crooked, with ugly spaces showing between them. Even if all your teeth have been extracted and you obtain too little calcium the destruction of bone continues and dentists have great difficulty in fitting artificial teeth because the bone structure is too weak to keep the teeth in place. On the other hand, if your diet is rich in calcium new bone is built and your dentures become firmly anchored.

Probably the greatest curse and cause of tooth decay is the eating of candy, soft drinks, pastries, and refined sugar in all forms. Bacteria in the mouth break down sugar into acids which combine with the calcium in the enamel, causing decay or erosion. In an experiment conducted by Dr. Bunting and coworkers of the University of Michigan a large group of children in an orphanage who were completely immune to decay were given candy daily. Within six weeks the majority had active decay, which became arrested as soon as the candy was no longer given them. Even chewing gum contains enough sugar to cause the teeth to decay. If you wish to keep your teeth or those of your children free from decay, forgo the use of refined sugars in all forms.

The vitamins of the B family play a role in preventing tooth decay. Animals lacking pantothenic acid have quick decay. People whose intake of niacin is inadequate have unclean mouths, heavily coated tongues, often a foul breath, and rapidly decaying teeth. Vitamin C helps to prevent decay by forming a strong foundation in the dentin which holds the minerals. In short, all vitamins and minerals help to keep the teeth beautiful, and the person susceptible to decay would be wise to follow the Vital Diet.

Even though a person's teeth are free from decay, he cannot have an attractive smile unless his gums are healthy. Abnormalities of the gum tissue result from many deficiencies and combinations of deficiencies. When vitamin C is undersupplied, the gums bleed easily, recede, become infected, and pyorrhæa quickly sets in. A person suffering from these

abnormalities should include 300 or more milligrams of vitamin C daily in his diet (see page 79). Your large glass of fresh citrus juice in the morning is of tremendous value in keeping your gums pink and healthy. Hungarians, who are famous for good gums and teeth, get large amounts of vitamin C from their paprika, fresh red or green peppers which are eaten like apples at the end of a meal. Lack of vitamin A can also lead to infections of the gums. Too few of the B vitamins, especially of niacin, cause the gums to be purple-red, painful and susceptible to Vincent's disease, or trench mouth, and frequent canker sores. When 100 milligrams of niacin are taken with each meal, in addition to the Vital Diet, such conditions quickly become normal. Anæmia readily shows in the gums, causing them to be pale and unattractive. In such cases add more iron to your diet.

A healthy skin is certainly an essential part of health. The skin over the entire body of a healthy person, whether blonde or brunette, should have a definitely pink glow. Healthy blood not only adds a glow to the skin but also keeps it well nourished, moist, and free from dryness and roughness. Moreover, the person who does not know the meaning of anæmia is mentally more alert and more energetic than one whose colour is pale. Anæmia is so common among women and children in America that attractive natural colour is the exception rather than the rule, yet anæmia can be quickly overcome if the diet is adequate and especially rich in iron. If your colour is greyish or bluish, set out to correct the condition immediately, following the suggestions given.

MUSCLES MAKE THE MAN

Although the skin, eyes, hair, and teeth are beautiful, no man or woman can be attractive unless his posture is correct. The smartest and best tailored clothes lose their effect if the shoulders are rounded, the chest low, and the abdomen protruding. There are two principal causes for poor posture: faulty diet and maladjusted emotional life. The body is held erect by the strong pull of firm muscles, kept healthy only by the foods you eat.

Since muscles are made of protein they cannot be strong or kept in normal repair unless the protein intake is adequate. If your muscles are flabby and stringy, count the grams of protein you eat, making sure you obtain at least 70 grams daily, 50 of which come from animal sources such as meat, eggs, cheese, and yoghourt. Almost all vitamins and minerals play some role in maintaining the natural pull of muscles, especially iodine, potassium, calcium, phosphorus, vitamin D, and the vitamins of the B family. See that ample foods supplying these requirements are included in your daily diet. Naturally, exercise also strengthens muscles and can help to improve your posture. Everyone should have at least a twenty-minute workout each day, stretching and firming all of the body muscles, especially those of the abdomen. Psychiatrists tell us that the person who is cringing, afraid of life, perhaps depressed and convinced that he is a failure, frequently reveals his feelings through the way he stands and walks. I find that many such emotions of inferiority are the result of an incomplete diet, and as the diet improves the mental outlook also improves. Both poor posture and poor mental health are major earmarks of malnutrition, and the person who sags either physically or mentally should make every effort to eat only foods which build health.

Perhaps in one respect only can the body not be remoulded to perfection, and that is if your mother was unwise and did not feed you sufficient vitamin D. When this vitamin is lacking during the growth period, the bone structure fails to develop normally. If the deficiency is severe, the bones enlarge because minerals are not properly deposited in them. Such enlargement causes a bulging forehead; abnormal sternum, or chest; knock-knees; and perhaps a protruding mouth. When the vitamin D deficiency is less severe the bones remain under-developed and weak, resulting in a narrow face and cheeks; small jaw-bones, which cause the teeth to be out of line and crowded together, and perhaps a receding chin or under-developed sinuses. Once the bones become solid at the end of adolescence, these abnormalities cannot be overcome. Therefore, the best advice one can give to a mother who desires to have beautiful,

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well-developed children is that she give them, without fail, at least 1,000 units of vitamin D daily throughout the entire growth period, both winter and summer. Many adults carry these bone abnormalities today, for vitamin D is not found in foods, and fish-liver oils were not given to babies and children until the last two decades. Adults who have been lucky enough to escape such skeletal abnormalities have the power within themselves to enhance their good looks from day to day.

Study yourself carefully in the mirror. Are you as attractive as it is possible for you to be? Even if your skin is free from blemishes, your teeth free from decay, your hair luxuriant and of natural colour, remember that this attractiveness can disappear unless you keep that body 'house' of yours in constant repair. Do not be satisfied with yourself until you radiate both health and beauty, for beauty is an earmark of inner health.

XIII. Your Food and Your Glands

HOW FOOD AFFECTS YOUR GLANDS AND PERSONALITY

When Thomas A. Edison was sixty-four, he made his first public speech. 'I am sixty-four years of age,' he said, 'but thank God, I am still a young man!'

Why is it that some men and women are old at thirty, while others are young at sixty? Why are many bent, wrinkled, played out, and careworn at what should be the high noon of their years, while others seem to have acquired the secret of inexhaustible vitality and perennial youth?

It is a human characteristic to seek the spectacular cure and the dramatic short cut. This is true of the sick person who asks his doctor for some magic pill or potion that will immediately enable him to jump out of bed, a well man. It is true of the overweight lady who is naïve enough to think that some tablet will melt away in a short time the fat she has been years in acquiring. It is true, likewise, of the old or prematurely old individual who believes that some magic can sweep away the years and bring back youth.

After sifting every hypothesis as to the cause of old age, Dr. Steinach found that one fact remained: age and death are the result of wear and tear of life. Steinach concluded that the time when the ageing process begins, the speed with which all traces of one's youth vanish, and the insidious manner in which age manifests itself depend upon our inheritance and our endocrine glands. Dr. Berman has called these glands the 'interlocking directorate' of our body control, our biological destiny. These glands do not cause old age. They determine when and how old age sets in. When they are exhausted the various bodily changes from vibrant health to decrepitude make their approach by stealthy steps and overtake us swiftly.

The sex glands, particularly, play an important part in any effort to postpone old age. So vital are they that they almost bear out Walt Whitman's saying, 'Yet all were lacking, if sex were lacking.' Dr. Steinach realized, however, that the sex glands have two different and distinct functions. They produce both an external and an internal secretion. According to Steinach's theory the external secretion produces life; the internal secretion revitalizes the body itself. Thus one function serves the future by perpetuating the race; the other serves the present by perpetuating the vitality of the individual.

In 1920, Dr. Steinach presented his theory of 'Rejuvenation through the Reactivation of the Ageing Puberty Glands.' Its enthusiastic reception was not limited to his scientific colleagues; its possibilities inflamed the imagination of laymen. In import it was as startling as a bombshell. Rarely has there been manifested such eagerness to acquire a detechnicalized account of scientific findings.

It is true that the added glandular secretions are undoubtedly powerful substances, but time and experience have proved that they are in reality only temporary stimulants. As soon as the stimulant wears off, and wear off it must, if the bloodstream does not contain the elements that feed the glands, the results of rejuvenation will wear off with it.

Dr. Serge Voronoff, who is now in America, approached the problem of ageing from a different angle. According to him, there are two types of tissue in the human body: that of low type; and nerves, glands, and arteries made of sensitive tissue. As the body ages, he says, the low type tissue, like weeds, grows prolifically and surrounds the sensitive tissue, causing hardening or sclerosis. To prevent this Dr. Voronoff transplanted some glandular tissue, preferably from monkeys, into his patients. There are two books in English describing the fascinating work of this Russian genius which should be read by everyone interested in the mysterious workings of the glands of interior secretion.

American scientists have learned two outstanding facts through the experiments of Steinach and Voronoff. First, that

the glands of internal secretion throw directly into the blood stream the hormones, not only those of the sex glands, but those of the thyroid gland, parathyroid, adrenal, pineal, pituitary, and others. Second, and more important, that each of these glands depends upon our very own bloodstream for its nourishment.

Let us now take up the more important glands in detail. The glands, as we know, do their work by producing substances known as hormones. A hormone is a substance produced in one part of the body which affects an entirely different part. The hormones act as chemical messengers which are sent out to tell certain organs to go to work. The actions of all the glands in the body are co-ordinated, and together they keep the body functioning normally.

THE PITUITARY

The master gland is the pituitary gland, situated at the base of the brain and above the back of the throat. This gland might be compared to a telephone exchange controlling the action of all the other glands or phones. The pituitary gland produces hormones which are sent out to the other glands telling them, in turn, to produce needed hormones. When the functioning of this gland becomes abnormal, many changes detrimental to health occur.

Since hormones are made of protein, deficiencies of the pituitary gland frequently occur when protein is undersupplied. For example, many gland abnormalities occur during adolescence because the protein intake is not adequate at this time when the requirements are so unusually high. Such deficiencies may result in either a stunting of growth or excessive growth, or giantism. Excessive growth is particularly undesirable in girls and frequently leads to marked unhappiness and sensitiveness. Perhaps the group of food substances which have the greatest effect upon the pituitary gland are the B vitamins. Mothers frequently tell me they are afraid to give these vitamins to their daughters for fear they will grow too much. What they fail to realize is that a lack of B vitamins can result

in abnormality of the pituitary gland and can be the cause of the excess growth they hope to avoid.

There is a generally popular opinion that if glandular abnormalities occur they are likely to continue throughout life. Nothing could be further from the truth. If the diet is completely adequate, many glandular abnormalities can be corrected.

THE THYROID

The glands on either side of the windpipe are known as the thyroid glands. They produce a hormone, thyroxin, which contains iodine; therefore they become abnormal at any time iodine is deficient in the diet. If the iodine intake is low, the gland enlarges in order to use the small amount of available iodine more efficiently. The resulting enlargement is spoken of as goitre. Goitres will slowly disappear when sufficient iodine is supplied together with an entirely health-building regime.

The need for iodine can be fully understood only when one realizes the significance of the normal action of a healthy thyroid gland. The hormone, thyroxin, pours into the blood and is carried to all parts of the body. This messenger tells all the cells in the body to burn the amount of food necessary to produce needed energy and to maintain normal body temperature. Thyroxin keeps the heart beating at the rate which sustains normal circulation to all parts of the body, the diaphragm moving at the exact speed which can bring oxygen into the lungs; in short, thyroxin keeps all body activities moving at an optimum rate.

If adequate iodine is not supplied, sufficient amounts of thyroxin cannot be produced. In this case, the body activities become sluggish. The person breathes more deliberately than is normal. His heart beats slowly. There are fewer and less vigorous contractions of the digestive tract and therefore a tendency to indigestion and constipation. Fewer calories are burned to produce energy. These changes result in many subtle abnormalities, none of which are compatible with health. A

person lacking iodine is therefore lazy, has no endurance, and suffers from cold. He puts on weight easily because the calories not used for energy are stored as fat. The heart slows down, bringing about many changes which are the result of poor circulation: cold hands and feet; dry and perhaps scaly skin; dandruff; lifeless hair which is lacking in lustre, greys prematurely, and may fall out easily; and thin fingernails which peel, split, or break. Such a person has difficulty in remembering because of poor circulation to the brain. Menstruation is usually profuse and frequent. Headaches are not uncommon. Even though such a person is cold when others are warm, in extreme heat he also suffers abnormally because his slowed circulation fails to cool his body efficiently.

A condition, spoken of simply as 'low thyroid,' is the usual form of a mild lack of iodine. Recent surveys of large groups of people have revealed that as many as 60 per cent of the children and 40 per cent of the adult women suffer from this form of subtle iodine deficiency. The symptoms vary, depending on the severity of the iodine deficiency. They may be so slight that the person considers himself quite normal. On the other hand, they can become extremely severe. Regardless of the degree of severity, such conditions rob the person of full

mental and physical vigour.

The vitamin B family has a profound effect on the action of the thyroid gland. By experiments in which this effect was particularly studied, the output of thyroxin was found to be decreased 80 per cent when no B vitamins were included in the animal's diet. These findings indicate that people suffering from symptoms of an underactive thyroid should increase both iodine and the vitamins of the B family in their diets.

In order to prevent any abnormality of the thyroid gland, iodized vegetable salt could be used consistently throughout life. Foods such as wheat germ, yeast, and liver should be included to supply the vitamins of the B family. If either a goitre or symptoms of low thyroid already exists, sea foods, which contain iodine, should be eaten frequently: fresh or dried sea greens or 5-10 drops of an organic iodine solution can be added to the daily regime. The vitamins of the B family

should be added in massive doses, and the Vital Diet should be carefully followed.

THE PANCREAS

Another gland, the pancreas, situated below the stomach, secretes an important hormone known as insulin. The purpose of insulin is to aid the body in storing sugar in the form of starch, or glycogen. As foods digest, sugar pours from the intestinal tract into the blood. The pancreas then secretes insulin, which, carried by the blood, tells the liver and muscles throughout the body to withdraw sugar from the blood and store it as starch, or glycogen. If the pancreas is damaged so that adequate insulin can no longer be produced, the amount of sugar from digesting food piles up in the blood and is lost in the urine; hence, the sugar cannot be used for energy. Fats, being burned alone, cannot produce energy efficiently. Many abnormalities occur when the pancreas can no longer produce sufficient insulin. This condition is spoken of as diabetes.

The exact cause of diabetes is unknown. It is known, however, that a deficiency of B vitamins can produce great harm resulting in insufficient insulin production. The incidence of diabetes in America has increased rapidly since the milling of grains has removed most of the B vitamins from our diet. The addition of massive doses of the entire B family to the diet of people suffering from diabetes often causes an increased production of insulin. Since the hormone, insulin, is made of a protein containing sulphur, a protein deficiency can also do much harm and may be at times a causative factor of the disease.

The emphasis in planning a diabetic diet has been in supplying adequate protein, restricting starches and sugars, and including enough fats to supply the calories needed for energy. The inclusion of adequate amounts of vitamins and minerals in such a diet has been so largely overlooked that patients with diabetes frequently suffer from deficiencies of many nutrients, particularly of vitamin C and those of the entire B family. When citrus juices are avoided because of their sugar content, large amounts of tomatoes, green peppers, and other foods rich in

vitamin C should be eaten. If the vitamin C needs cannot be met with natural foods, tablets of the vitamin should be used. A half cup of pure wheat germ, which contains almost no starch, should be eaten daily; a tablespoonful of powdered brewers' yeast, which is also starch-free, should be taken after each meal. Since adults lack enzymes capable of digesting milk sugars, the sugar contents of milk should be ignored, and a pint or more of yoghourt should be included in the daily diet. All refined sugar, white flour, confections, and pastries should be avoided. If the diabetic diet is well planned to include all the needs of the body, it can be one of the most healthful diets.

THE GONADS

Nutrition plays a tremendous part in the health of the sex glands of both men and women. Partial impotency and lack of libido, or sex urge, play such an important role in marital relations and the general happiness of the home that such topics should be brought frankly into the open. If the diet is kept entirely adequate and all existing deficiencies are overcome, improved health is reflected in greater virility and in normal libido and potency. The decreased virility which frequently occurs during the late thirties and forties, and is often said to be due to age, is in reality usually caused by overwork, fatigue, and inadequate diet. The vitamins of the B family appear to increase virility and libido more than any other nutrients. Persons who have problems of this nature should follow the Vital Diet, outlined in Chapter VII, specialized by the addition of massive doses of B vitamins.

A deficiency of any one of the anti-grey hair vitamins, pantothenic acid, para-aminobenzoic, and folic acid, appears to cause atrophy in the sex glands. The Bulgarians, who have lived largely on yoghourt which supplies bacteria capable of manufacturing these vitamins, have been noted for their virility which extends into advanced old age. If a half cup of wheat germ, three to six tablespoonfuls of yeast, and three glasses of yoghourt are taken daily, impotence resulting from lack of B vitamins can often be overcome.

Foods recommended on the Vital Diet contain all nutrients essential to sexual health. Many of these should be particularly emphasized. For example, since all hormones are made of protein, the protein intake of any person lacking normal libido should be checked and made adequate. Animal proteins from eggs, meat, milk, and cheese increase the production of the sex hormones more readily than do those of the vegetable sources. Vitamin A promotes the health of the sex glands, especially of the prostate and the ovaries, where it helps to regulate the rhythm of the menstrual cycle; hence this vitamin must be generously supplied by the use of yellow and green vegetables and fruits and their juices, and by fish liver-oils. Women who lack iodine usually experience decreased libido, irregular and profuse menstruations, and menstrual headaches; the inclusion of iodine foods quickly alleviates these conditions. Vitamin C deficiency has been found to be injurious to the sex glands; in women it leads to profuse menstruation and menstrual pain. Although vitamin Ê was formerly known as the anti-sterility vitamin, the inclusion of massive doses in the diet has no aphrodisiac value and does not result in increased libido. When impotence exists, regardless of age, the diet should be immediately improved.

Vitamin E is necessary for the formation of sperm in the male, and its adequacy prevents sterility. In the female, ample vitamin E helps to prevent threatened abortion, miscarriage, and premature births. Wheat germ and wheat-germ oil are the richest sources of vitamin E. This vitamin is also found in lettuce, green leafy vegetables, and unmilled grains. If wheat germ, green leafy vegetables, and salads are used daily and all refined foods avoided, the vitamin E intake will be ample.

THE THYMUS

In the chest, just above the heart, is situated the thymus gland. This gland is large during childhood and plays an important role in controlling development and growth. During late adolescence this gland atrophies and becomes extremely small, but to a certain extent it continues to function even in old

age. If the diet is inadequate during childhood, especially in vitamins of the B family, the gland will atrophy long before it should, leading to stunted growth.

THE ADRENALS

The adrenal glands, situated above the kidneys, are known as the 'glands of combat.' They are responsible for most of our behaviour reactions of fight and flight. During any emotion such as fear or anger, a large amount of the active hormone from the adrenal glands, spoken of as adrenalin, pours into the blood and prepares the body for action. This adrenalin causes the body starch, or glycogen, stored in the liver and muscles to be broken down to sugar, ready to serve as a source of energy for immediate action. Except directly after a meal when sugar is pouring into the blood from the digestive tract and is available for producing energy, the adrenal glands continuously secrete a small amount of adrenalin, thus causing glycogen to be turned into sugar as it is needed. A deficiency of adrenalin, therefore, causes slowness of reaction and inability to escape when danger threatens.

A lack of vitamin A causes enlargement of the adrenal glands and leaves them subject to infections. A lack of the vitamins of the B family has a profound effect on these glands, causing decreased production of adrenalin and often atrophy and hæmorrhage of the glands. A lack of vitamin C also causes hæmorrhage, swelling, and decreased hormone production. If these glands are to be kept normal, the diet must be kept particularly complete in these three groups of vitamins.

THE PARATHYROIDS

On either side of the windpipe, situated behind the thyroid, are the parathyroid glands. If calcium-rich foods such as cheese, milk, and black molasses are eaten, calcium pours into the blood. If vitamin D is adequate, these minerals are deposited in the bones and teeth or stored in the ends of the long bones. Between meals, when no calcium enters the bloodstream, the

hormones from the parathyroid gland circulate in the blood; whenever calcium and phosphorus are needed, this hormone tells the teeth and bones to give up these minerals for the use of the heart, nerves, and other soft tissues. Thus the parathyroid gland sees that the amount of calcium and phosphorus in the blood is kept approximately the same at all times throughout life. It must be remembered that every cell of the body must be supplied with phosphorus to maintain life and that calcium is needed to help relax all nerves and muscle tissue. The action of the parathyroid, therefore, is of tremendous importance in maintaining health and in preventing excitability, irritability, nervousness, and rapid heart action.

Adequate amounts of vitamin D, calcium, and phosphorus are most important in maintaining the health of the parathyroid glands. The lack of these substances causes the glands to enlarge. An overproduction of the parathyroid hormone, which sometimes results from malnutrition, causes so many minerals to be removed from the bones and teeth that they become porous and susceptible to breaking. Perhaps a most common deficiency among adults, particularly during the wintertime, is a lack of vitamin D, not found in ordinary food. This vitamin must be supplied by fish-liver oil, milk, and summer sunshine if the parathyroid is to be kept normal.

NUTRIENTS AND YOUR GLANDS

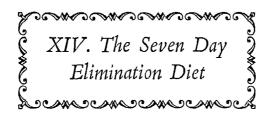
Normal nutrition supplies the raw materials with which the glands produce their hormones and keep all body mechanisms running normally. The person who is careless about his food intake runs the risk of producing glandular abnormalities which can affect his thinking, the speed of his reactions, his entire personality, his sexual drive, and determine whether or not he will become either excessively overweight or emaciated. Normal glandular health is an earmark of adequate nutrition which can be within the reach of each intelligent human being.

The relation of all nutrients to the glands is not yet entirely understood. Even now experiments are being carried out in the laboratories and clinics which will eventually clear up the

matter. Until then we must be satisfied with the fact that diet does influence the glands, and when any nutrient is absent from the diet, the endocrine system becomes unbalanced.

So great are the dangers in this unbalance of the ductless glands that we must never run the risk of having any deficiency. A well-balanced, vitamin-rich diet is our best protection against those aberrations of character, personality, and health which make of our glands such terrifying masters.

The search for youth has been going on ever since Adam discovered the grey in his beard. We know now that it is only when man attunes himself to all of Nature's forces—which include among them the foods he eats, the air he breathes, and the sunshine that penetrates his body—that he is able to acquire a reprieve from premature senility and an order for many happy, useful, youthful years.



HOUSECLEANING THE BODY ONCE EACH YEAR

'An insatiable paunch is a pernicious sink, and the fountain of all diseases, both of body and mind.' This sentence, from the *Anatomy of Melancholy*, made a tremendous impression upon me, because for years I have contended that the stomach and intestines are the laboratory and centre of gravity for every cell in the body. In my search for the perfect diet I had many interesting experiences. I went to every clinic and sanatorium where modern nutrition was taught and used. I was never satisfied with merely studying the different systems of diet but I tried every one of these diets on myself.

In Zurich, Switzerland, I took a two weeks' 'food cure' at the famous Bircher-Benner clinic. It consisted of a restricted low calorie diet with the famous 'Muesli' (Swiss breakfast) for breakfast and dinner, and a raw vegetable luncheon at noon. This diet, though restricted, was fun, and not at all difficult to follow. An important part of the Bircher-Benner system is that the patient undereats temporarily. Such undereating, according to Dr. Bircher-Benner, has a cleansing effect upon the entire organism. His system is very popular all over Europe.

Another year I took the famous 'grape cure' in Merano, Italy. The first few days, those freshly picked grapes tasted delicious, and I could eat all I wanted. But after a week of just grapes and more grapes the diet became monotonous. However, grapes are an excellent food and have a powerful cleansing action, and I must say I felt like a 'million.'

The 'diet cure' I took in Carlsbad, Czechoslovakia, was even more difficult. For ten days I was given a high protein diet with

meat three times a day and quarts and quarts of Carlsbader water. I lost fifteen pounds but did not look or feel well. Perhaps I drank too much of the Carlsbader water.

My diet in Dresden was perhaps the most difficult of all, much more difficult than a complete fast (of which I had taken several). At the Dresden sanatorium the so-called 'dry diet' was used, and dry it was. On the first day I could eat all I wanted of dried-out rolls with not even a mouthful of water. Needless to say, after a day of such dry bread and no water, I became miserably tired and thirsty, and did not care what happened. The next day I turned drunkard and drank a quart or two of light red wine. The theory is that the body cells become dry one day and are flooded and flushed the next. This practice increases cell metabolism and helps to eliminate waste. After the fourth day I did not care what happened. I felt tired and confused and discontinued what I felt was a dangerous diet.

I could go on and tell about many other different diets I have taken during stays in Leningrad, Paris, Budapest, Baden Baden, Aix-les-Bains, etc. Some of these diets were good, some useless, and a few downright stupid. But all of the diets, and even fasts, aim at one and the same thing, namely, to increase the elimination and cleanse the body, to give the 'inner man' a rest, and to build a healthy body on a clean foundation. The endless procession of tired and toxic people who have come my way convinced me years ago that much could be done to prevent such misery, if people could be taught to take their own simple 'food cure' right in their own homes. For this purpose I created my Seven Day Elimination Diet. Thousands testify that of all the different systems of diet, it is the most pleasant and effective. It is nothing more than a week's health holiday for the 'inner man.' Essentially my Seven Day Elimination Diet aids nature in ridding the body of unwanted food and waste residue.

It is much easier and much more enjoyable to eat a great variety of fruits and vegetables. Such a diet is far from being a fast since we use loads and loads of fruits and vegetables, raw and short-cooked, in order to preserve their vitamins and minerals. Most people on a general mixed diet use too many

foods that tend to make certain body fluids overly acid. When elimination is poor and food wastes accumulate in the colon, unfriendly (poison-forming) bacteria increase.

The fruits, vegetables, and yoghourt we use in the Seven Day Elimination Diet help to suppress such unfriendly putrefaction and assist the friendly aciduric types to thrive on the vegetable residue. Naturally this restricted diet is not to be used steadily. The Vital Diet has been designed for that purpose. But as a periodic measure the Seven Day Elimination Diet should be applied for a week at a time whenever the need for body cleansing is felt. Its use once or twice a year, say, in spring and autumn, is a good practice. Remember, the body is thus saturated with vitamins and minerals derived directly from fresh young growing things. You may be cheating your appetite for that week, but your 'inner man' is actually having a feast of vitamins and minerals.

I commend this simple, common-sense cleansing diet to all who feel the need of it. It requires only one week. Any person can undertake such a 'housecleaning' diet by following the directions. Thousands upon thousands have gone on this Seven Day Elimination programme under my supervision. I am convinced that such periodical cleansings have prevented much unnecessary pain and suffering. If you are ill, you should discuss your condition with your physician. Just remember that this method of dieting is for the sole purpose of giving the body a rest from past dietetic abuses, of saturating it with vitamins and minerals, and thus reinforcing nature in her extraordinary capacity for self-aid.

Perhaps you belong to the mistaken group of people who believe that the more one eats, the stronger one gets. Nothing could be further from the truth. It is not how much you eat but how much you assimilate that really counts. I can assure you that assimilation is always better after a restricted diet. If you cannot undertake an entire week of this diet because you do not have the time or the facilities, I suggest that you try just one day of this fruit and vegetable feast. See for yourself how much better you feel and then at your next opportunity you will want to go on the complete Seven Day Elimination Diet. Here

is a long list of foods which you can select from and you can eat all you want:

FRUITS:

The very best: oranges, grapefruit, lemons, limes, pineapples Second best: apples, pears, peaches, cherries, apricots, grapes, all fresh berries

Third best: all melons (no bananas, please!)

VEGETABLES:

The very best: celery, carrots, spinach, parsley, turnip tops, beet tops, lettuce, endive, escarole, dill, watercress

Second best: celery roots, radishes, onions, garlic, cucumbers, asparagus, sweet green and red peppers, bean sprouts, egg-plant

Third best: cabbage (white and red), sauerkraut, cauliflower, turnip roots, beet roots, zucchini, very young peas

Use the above fruits and vegetables raw, short-cooked, or in juice form. Besides all of these fruits and vegetables you can drink one pint of fat-free yoghourt each day.

These, then, are the foods you can look forward to each

day:

1 pint or more of fresh citrus juice

1 pint of Hauser Broth

I pint or more of fresh vegetable juice

1 pint of yoghourt

2 short-cooked vegetables

hot or iced herb tea, all you want

a fifteen-minute elimination bath

a herbal laxative before retiring

For the preparation of Hauser Broth, yoghourt, and short-cooked vegetables see the 'New Health Cookery,' Chapter XXI. Before beginning a daily elimination diet menu, read the following bird's-eye view and learn how to arrange the meals as attractively as possible.

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Breakfast:

Upon arising, cleanse the mouth with a salty tooth powder; after that, drink a large glass (8 ounces) of one of the following fresh juices: orange juice, grapefruit juice, pineapple juice, apple juice, or any fresh juice which agrees with you. Besides your large glass of fruit juice, you may have I or 2 cups of herb tea such as peppermint, strawberry, or verbena sweetened with honey. It is best to do without coffee during this week, but if you must, drink I cup of clear coffee in the morning. If fruit juice and a hot beverage do not satisfy you, you can eat as much fresh or honeyed fruit as you like.

MIDMORNING: Take your choice of a glass of fat-free yoghourt or a glass of vegetable juice or a cup of Hauser Broth. With this you may eat some fresh celery, carrot sticks, or raw peppers. This is called a finger salad.

LUNCHEON:

Take a cup of Hauser Broth, any fresh fruit or vegetable salad, and, if you are still hungry, a dessert of fresh or honeyed fruit or a dish of fat-free yoghourt with fruit.

M_{TD}-AFTERNOON:

Have a glass of your favourite fruit or vegetable juice. If something hot is wanted, have I or 2 cups of peppermint or strawberry tea or, if you prefer,

another dish of yoghourt at this time.

DINNER:

You may have Hauser Broth and 1 or 2 short-cooked vegetables, cooked without butter. If cooked vegetables are not appetizing, simply eat a larger salad. A dessert may consist of fresh or honeyed fruit or a baked apple or, if you prefer, a dish of chilled yoghourt flavoured with cinnamon. For a pleasant beverage you may always add a cup of peppermint tea.

Before RETIRING: It is important to keep the bowels free; with so much fresh fruit and vegetables there should be one or two eliminations daily. If they fail, you may try some laxative herbs.

With this outline you should be able to make up your own elimination menus to suit your convenience. Just remember

that you should never be hungry. This is not a fast; the more you eat of the recommended foods, the better. You are 'vitaminizing and mineralizing' your body with the fruits and vegetables, and the yoghourt has been added to give you extra amounts of vitamins, especially the B family, and to prevent you from becoming hungry and feeling sorry for yourself.

Here is a typical elimination day menu, as thousands of my students are following it for seven days once or twice each year

according to their needs:

THE DAILY ELIMINATION DIET MENU

UPON thorough cleansing of the mouth, preferably with a

ARISING: salty tooth powder, after which you may drink 8

ounces of orange juice or your favourite fruit

juice

Breakfast: I dish of fresh or honeyed fruit

hot beverage, preferably peppermint tea-clear

coffee, if you must

MIDMORNING: I glass fresh grapefruit juice or I glass yoghourt

your choice of Hauser Broth or peppermint tea with

lemon and honey

LUNCHEON: Hauser Broth

green salad with tomatoes or your own choice 1 dish of fresh fruit with fat-free yoghourt

beverage: peppermint, strawberry, or verbena tea your choice of 8 ounces fresh vegetable juice, celery-

MID- your choice of 8 ounces fresh vegetable juice, celery-AFTERNOON: carrot-apple (straight or mixed), fresh fruit juice,

peppermint tea with lemon and honey, or I glass

fat-free yoghourt

DINNER: Hauser Broth

finger salad

your choice of one or two short-cooked vegetables

as beet tops or carrots

your own choice of any green salad fresh or honeyed fruit or baked apple

beverage: peppermint or strawberry tea or yoghourt

MIDEVENING: your choice of any fresh fruit or vegetable juice, all you want

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Before retiring:

a fifteen-minute Epsom salt bath (I pound of Epsom salts in half-filled tub of pleasantly warm water. Relax in this for fifteen minutes)

Check up to make certain that you have had sufficient broth, fruit and vegetable juices, your pint of yoghourt; if not, make up the deficiency before you retire; also check up on your elimination; if insufficient, try a herbal laxative.

This programme should be followed for seven days. Monday to Monday is a good plan, but of course you can start on any day of the week. Those who have never been on any restricted diet are sometimes afraid that such a programme causes great hardship or serious difficulties. To such people I simply suggest that they try just one day and let the results speak for themselves. In this way many of the greatest sceptics have become enthusiastic followers and each year go on the Seven Day Elimination Diet.

After a week of such 'housecleaning' one feels and looks lighter and brighter. Many report that all sorts of vague pains and aches have disappeared, and they feel so good that they want to stay on the Elimination Diet. They should not do so, however, without the consent of their dietitian or physician.

On the eighth and ninth day it is best to continue eating lots of fruits and vegetables and perhaps to add some lean meat in the evening for dinner. After that the Vital Diet should be followed throughout the year.

So, once or twice each year, whenever you feel the need for a rest for the 'inner man' without going to Switzerland, Czechoslovakia, or any other far-away resort, you can take your own simple seven day 'food cure' right in your own home.

XV. Get Well and Stay Well ?CAM\?CAM\?CAM\?CAM\?CAM\

SPECIFIC FOODS FOR SPECIFIC NEEDS

How to use our 'daily bread' for our daily health has always been one of the most popular subjects with my students. The Vital Diet is a complete diet and has been designed to give you everything the normal body needs for its daily health.

If you suffer from any abnormality discussed in this chapter, use the Vital Diet as your foundation, but add larger, massive amounts of those nutrients which your particular condition demands. If you have a serious problem, consult a physician. Make sure however that he understands and applies modern scientific nutrition. With such an understanding you can cooperate with your physician willingly and intelligently, and the dietary aids given here will help you to understand what tremendous part nutrition plays in overcoming abnormalities permanently.

When a definite illness exists, the modern nutritionist will add massive amounts of those nutrients of which you are deficient. In this way the starved tissues can soon become saturated and the deficiency quickly overcome.

CALCIUM FOR MENDING BONES

For example, let us suppose you have been in an automobile accident and have several broken bones. Unless we supply vitamin C in massive amounts, healing cannot take place. Moreover, the speed of healing and the strength of the knitted bones is in direct proportion to the amount of vitamin C you obtain. If your convalescence is to be a short one, your vitamin C deficiency should be quickly supplied. People with severe vitamin C deficiency may have to drink as much as forty glasses of orange juice before their tissues are saturated with this

healing vitamin. Therefore drink as many glasses of fresh citrus juice as you can each day for about one week. Besides that have a large fresh salad containing fresh tomatoes and green pepper for luncheon and dinner, supplement the Vital Diet for one week with 100 milligram tablets of vitamin C, two after each meal and before going to sleep at night. When such large doses of vitamin C are given the body takes as much as it needs. Any excess is eliminated in the urine. In addition you should add extra amounts of calcium, phosphorus, and vitamin D if the bones are to heal normally. Most of these you will obtain by following the Vital Diet, but to make doubly sure a calcium, phosphorus, and vitamin D concentrate in powder or tablet form can be added three times a day. In this way the tissues become more quickly saturated with the important elements. After a few months of such thorough saturation you will be able to obtain the necessary vitamins and minerals from natural sources.

The same procedure should be followed before an operation, a tooth extraction, or at any time healing is desired.

This same underlying principle applies to overcoming all nutritional deficiencies: simply add massive doses of those nutrients which are deficient; as soon as the deficiency is overcome—usually in about three or four months—decrease the amount to that supplying your daily needs. The process is like wetting a sponge. Much water is needed to wet a dry sponge, but once the sponge is wet, only a little water added daily can keep it wet.

ALLERGIES AND VITAMIN C

Allergies, one of the most aggravating abnormalities, occur after a severe cold, influenza, or any infection that leaves the body run down. I firmly believe that most allergies are brought on by eating 'foodless foods,' and the change from a deficient diet to the Vital Diet often eliminates this abnormality. Whatever the cause of allergies, the first emphasis must always be placed on building up the general health.

Frequently the pollens from plants, dandruff from animals,

or proteins from undigested foods get into the blood. These cause many reactions spoken of collectively as allergies. The reaction may take the form of hives. A condition similar to a severe cold or sinus infection may result. Many kinds of skin rashes or eczema may be caused. Other forms are hay fever and asthma. However, regardless of the type of reaction, all allergies are due to foreign materials which get into the blood-stream and act as poisons.

These foreign substances reach the bloodstream of all persons, although the majority show no allergy reactions. The livers of healthy persons produce substances known as antibodies which circulate in the blood. Antibodies can only be produced when vitamin C is generously supplied. These antibodies combine with foreign materials and destroy their harmfulness. Such action occurs when pollens, which might cause severe hay fever in some people, reach the bloodstream of those whose diets contain generous amounts of vitamin C. Vitamin C has been found to be of tremendous importance in preventing and correcting allergies. The amount required for either prevention or correction varies widely with individuals, but appears to be about 300 milligrams daily. If the person is allergic to orange, grapefruit, or tomato juice so that these foods must be eliminated temporarily from the diet, larger salads should be eaten twice daily. Fresh vegetable juices, especially those made from green peppers, carrots, kohlrabi, turnips, should be drunk between meals. In severe attacks your physician will no doubt give you 100 milligram tablets of vitamin C to be taken from three to six times daily, one with each meal and one after each meal and before bed. The amount given depends on the severity of the case.

In any case of allergy, whether it be asthma, hives, hay fever, eczema, or a condition resembling sinus infection, vitamins of the B family must be high in order to keep elimination normal at all times. If the allergy is to whole-grain bread and cereal, making it necessary to eliminate these and even wheat germ temporarily, larger amounts of brewers' yeast and molasses should be taken. In overcoming hay fever massive doses of vitamin A have produced excellent results. In eczema the

essential fatty acids should be supplied, and from one to three tablespoonfuls daily of peanut oil has proved valuable. Many so-called eczemas are not true allergies but are deficiencies of the lesser-known vitamins of the B family. If there is an allergy to milk, the person can often tolerate cheese, buttermilk, or canned milk. Yoghourt made of either cow's or goat's milk is used satisfactorily in eliminating allergies. If the allergy includes all sorts of milk and even cheese, calcium powder or tablets, such as dicalcium phosphate, should be taken. Calcium tablets often bring quick relief to the person with hives or asthma. I have found that there are practically no allergies which cannot be overcome by an entirely adequate diet, and if one food must be omitted special effort should be made to supply substitutes for the important factors in that food. In some cases, despite giving up several foods, the allergy hangs on. For example, a person may suffer from several food allergies, and although he omits from his diet known offending foods, the allergy still persists. In such a case it is best to ignore these foods and build up one's vitality.

It is amazing how many varieties of poisons can reach the blood. But in normal health, these are destroyed and made harmless by our own antibodies.

For example, men working in paint factories, ammunition plants, petrol stations, and other places where they come in contact with lead suffer severely from lead poisoning. Recently it has been shown that such poisoning can be either prevented or corrected when 100 to 300 milligrams of vitamin C are obtained daily. Many become poisoned by taking bromine in the form of sleeping tablets. Here again vitamin C has been found valuable in the correction of such poisoning. In helping such people, at least 300 milligrams of vitamin C should be taken daily in addition to the Vital Diet.

YOUR HEART AND VITAMIN B

Heart troubles are due to many causes and deficiencies, but one of the outstanding causes appears to be a lack of vitamin B₁. In experimental animals the heart is the first organ to suffer

when vitamin B₁ is inadequately supplied. Heart disease has been produced experimentally in human beings by both Dr. Russel Wilder of the Mayo Clinic and by Dr. Norman Jolliffe of the Cornell Medical School simply by placing men and women on diets adequate in all other respects except vitamin B₁. Heart disease was produced more quickly in men who were doing physical labour. Their hearts became abnormal in only a few days, whereas the women held out several weeks before difficulties started. In all cases, palpitation, shortness of breath, and irregular pulse were noticed, and in some the hearts became enlarged. After vitamin B₁ was added in massive amounts, the hearts again became normal.

Of all parts of the body, the heart alone must work continuously from birth until we draw our last breath. When sugar cannot be changed efficiently into energy, as it cannot when vitamin B₁ is lacking, the heart slows down. Instead of the normal heart rate of 72, a pulse of 40 or 50 beats a minute is not uncommon. As the vitamin B₁ deficiency becomes more severe, the pulse changes from slow to rapid. This change is believed to be due to the irritation of the heart muscles because of lactic and pyruvic acids which form from sugar when vitamin B₁ is undersupplied. The person with such a deficiency becomes conscious of the racing beat or palpitation of his heart. He is short winded and has difficulty in getting his breath on slight exertion. His heart may become enlarged, a condition thought to be due to the body's holding water in the heart in an attempt to dilute the lactic and pyruvic acids that accumulate there. If the condition increases in severity, the symptoms become exaggerated and the person may suddenly have heart failure.

Many physicians still do not recognize that vitamin B₁ deficiency exists in the United States in severe enough form to cause death from heart disease; others, however, now use vitamin B₁ as part of the standard treatment. Scientists who have studied the drastic effect of this deficiency on the heart estimate that a great percentage of heart disease is caused by lack of vitamin B₁. The death rate from heart disease has steadily increased since the refining of grains began, a practice

which has robbed our national diet of its main source of this vitamin. Men are more severely affected by inadequate vitamin B₁ than women are; many more men than women have heart failure.

Patients with many types of heart disease considered to be unrelated to the lack of vitamin B₁ have been found to have abnormally small amounts of the vitamin in their blood and urine. Moreover, lactic and pyruvic acids, which accumulate only in the absence of vitamin B₁, have been found in larger than normal amounts in the blood of such patients. These findings indicate that, in any type of heart disease, the diet should be kept unusually rich in this vitamin.

In all heart abnormalities other than heart infection, therefore, the B vitamins should be increased to about 5 or 10 milligrams daily in the form of natural sources. This amount, which can be supplied by a half cup of wheat germ and three tablespoonfuls of yeast daily, should be continued for months or even years. Yoghourt is of particular value in such cases because the bacteria it introduces into the intestines can make and help supply B vitamins. In other respects, the person with heart disease should follow the Vital Diet. He should always guard against overeating, especially at night; it is better to be underweight than overweight. In heart infections, which are too frequently fatal, there should be large quantities of vitamin C. Heart infections are produced in animals only when they lack this vitamin. As much as 1,000 milligrams can be given daily. Vitamin C tablets can be used to supplement the amount of natural vitamin. This is especially valuable during rheumatic fever, in which the heart is usually infected; unless vitamin C is generously supplied at this time, the rheumatic fever victim suffers irreparable heart damage throughout life.

ANÆMIA

Anæmia is another problem which must be helped by dietary means. Almost every body requirement is essential to building and maintaining healthy blood. For example, anæmia results from lack of iodine, calcium, niacin, vitamin B₆, cobalt,

copper, and especially iron. In any case of nutritional anæmia a capsule or tablet of some iron salt such as ferrous mucate or ferrous chloride should be taken daily. In all anæmia, particularly pernicious anæmia, the vitamins of the B family should be generously supplied. As much as 5 to 10 milligrams of vitamin B₁, furnished by natural foods containing all the B vitamins, should be obtained daily. Vitamin B₆ which is particularly rich in corn oil, yeast, and black molasses is of special value in correcting anæmia. If weight permits, corn oil should be used for cooking and salad dressing.

INDIGESTION

Gas pain and distention and various forms of indigestion take their toll of misery, and yet probably 99 per cent of such discomfort could be entirely prevented. In the majority of cases, nothing more than adequate B vitamins are needed to correct the condition. The vitamins of the B family stimulate the flow of digestive juices and the production of digestive enzymes; they also increase the mobility of the digestive tract, and make for the normal and complete digestion of food. Gas and indigestion invariably indicate that food is not being completely digested or absorbed into the blood; therefore, undigested food is left in the intestinal tract. This food supports the growth of bacteria and the more undigested food, the larger the number of bacteria. In the bacterial breakdown of undigested food, gases are formed. Unfortunately as the diet of such a person is improved, the diet of the bacteria in the intestinal tract is also improved. In this case, if digestion is incomplete an increase in gas rather than a decrease can be temporarily expected. In fact the greater the increase in gas following the addition to the diet of foods as wheat germ or yeast, the greater the need for the vitamins of the B family. Nevertheless the vitamins of the B family should be kept extremely high, starting with small amounts of yeast, wheat germ and molasses and continued even though gas distention may seem more severe; as the condition improves, the amounts of these foods should be increased. Usually in about two weeks the digestion becomes

normal, even though the condition has persisted for many years.

Yoghourt is of particular value in the elimination of gas and indigestion. The bacteria in yoghourt, living in the intestinal tract, break milk sugar into valuable lactic acid. Gas-producing bacteria cannot live in lactic acid. Hence, if several glasses of yoghourt are drunk daily, these harmful bacteria are soon destroyed.

If one tastes such strong-flavoured foods as onions, garlic, green pepper, or cabbage after eating them, it does not mean that these foods cause indigestion but merely that air has got into the stomach, absorbed the odour of these foods, and has then been belched up. Gas formed from the bacterial breakdown of foods rarely reaches the stomach. Most of the stomach 'gas' is air, which is swallowed by adults just as it is by babies. The largest quantity of air is swallowed while cold liquids are drunk because of the sustained opening of the top of the stomach together with continuous swallowing which forces the air, always in the throat, downward. The air then heats to body temperature, expands, and can cause much distress. Such discomfort can be prevented by eating slowly and by drinking all liquids through a straw.

NEURITIS

Neuritis, or inflammation of the nerves, is a common abnormality leading to vague aches and pains in almost any part of the body. In the beginning stages there may be only numbness and weakness. The nerves which are used the most are often affected first and become the most painful: the nerves in the arm of a baseball player; the legs of a dentist or postman; the forearms of a person who types or knits or sews a great deal; the back of a labourer who lifts heavy loads. Neuritis of this type is extremely common in the United States and is found among the wealthy as much as the poor. Neuritis develops when a severe deficiency of vitamin B₁ exists. In mild cases the pain appears to be due to the accumulation of lactic and pyruvic acids from incompletely burned sugar. In more severe

cases the nerves may be actually damaged. Nerve cells are particularly affected by the lack of vitamin B₁ because they can burn only sugar to supply their energy; other body cells can derive energy from either fat or sugar.

Sciatica, lumbago, tri-facial neuralgia, and shingles are all forms of neuritis. All types of neuritis have been successfully helped with large amounts of vitamin B₁. Since all the vitamins of the B family work together, however, much better results are achieved in correcting neuritis if all of these vitamins are supplied. Yeast, wheat germ, liver, and whole-grain bread should be used. In severe cases, vitamin B₁ in 5 or 10 milligram tablets should be taken after each meal so that some 30 milligrams of vitamin B₁ can be obtained daily in addition to the natural sources.

If neuritis should not clear up within two or three weeks after the person has carefully followed the Vital Diet augmented by large amounts of the B vitamins, an infection should be looked for. Toxins from bacteria frequently destroy vitamin B₁. The teeth should be X-rayed, any dead teeth removed, and a search should be made for any other source of infection.

Both neuritis and arthritis are frequently spoken of as rheumatism. Neuritis is inflammation of the nerves and the pain of neuritis follows the nerve channels; arthritis, to be discussed in the next chapter, is an infection in the joints and the pain is in the joints rather than the muscles. True rheumatism resembles arthritis in that pain occurs in the joints, but it is not complicated by an infection. One of the causes of rheumatism is a lack of vitamin C which allows capillaries to break at the joints where they are most frequently bent; the cells at the joints are undersupplied with food and oxygen because the blood fails to reach them normally and pain results. Since vitamin C occurs in fresh, raw foods, often difficult to obtain during long winters, rheumatism is a disease of the late winter and spring. It is especially common among older people whose requirements of vitamin C are high and whose artificial teeth often make it impossible for them to eat fresh salads. Who has not seen elderly people, shawls about their shoulders, huddled

close to the fire on cold winter and early spring days, nursing their aching joints? As soon as the garden supplies lettuce, radishes, and fresh greens, the rheumatism disappears. All true rheumatism would be prevented if people could obtain ample vitamin C, and it can be corrected in a short time by taking 1,000 or more milligrams of this vitamin daily. Should the pain not disappear within three or four days after large amounts of vitamin C is taken, then either neuritis or arthritis should be suspected.

MIGRAINE

Migraine headaches are now being successfully helped with large quantities of vitamin B₁ together with the entire B family. The brain, like the nerves, can use only sugar for energy, and without vitamin B₁ sugar cannot be converted into energy. The person who suffers from headaches should eat wheat germ every morning for breakfast and take a tablespoonful of yeast after each meal. He should drink at least a pint of yoghourt daily, although a quart would be still better. In addition to these foods he would be wise to take 5 milligrams of vitamin B₁ with each meal, between meals and before bed for two weeks. If a severe headache occurs, 5 milligrams of vitamin B₁ can be taken each hour.

Even when vitamin B₁ is supplied, headaches will occur when too little sugar-forming foods are eaten. Such headaches are common during illnesses when one feels too sick to eat; during reducing when one fails to eat between meals; and on bargain days when women rush to town without stopping to eat breakfast. This type of headache can be avoided by frequent meals, or readily corrected by drinking sweet fruit or vegetable juices.

VARICOSE VEINS

A problem which can be extremely annoying and which appears to be common among young people as well as older ones is that of varicose veins. These unsightly veins occur when

the blood fails to return to the heart normally and is the result of a general run-down condition which allows the tone of the muscles to become poor. Whereas the blood is pumped by the heart to all parts of the body, the push of the heartbeat is lost when the blood goes through the capillary beds. The return of the blood to the heart, from the feet, for example, is accomplished by the contraction of muscles. The blood is pushed from the capillaries into the veins and through the veins toward the heart each time a muscle contracts in much the same way that water is wrung out of a sponge. The backward flow of blood is prevented by valves, or closed doors, in the veins. As the muscles relax, new blood flows into the capillaries, forced in because of the pumping of the heart. In varicose veins, the contraction of the muscles is so weak that blood is not forced out of them; it clots, closing off the vein, which becomes swollen and often painful. Sometimes the condition is aggravated by pressure which partially closes the veins between an extremity and the heart, as pressure against the veins of the abdomen during the last months of pregnancy or that caused by deposits of fat in anyone who is obese. The prevention of varicose veins, therefore, or the means of preventing them from becoming worse after they have once started, is to build up the body to such an extent that strong muscle tone exists which can forcefully push the blood on toward the heart. A healthy muscle has the same strong pull and elasticity as new rubber. It is this pull which is spoken of as muscle tone. Should the muscles lack tone to such an extent that maintaining good posture becomes difficult, unless steps are taken to build up the muscles, varicose veins can be expected.

Proteins and almost every vitamin and mineral play some role in maintaining the elasticity and contractibility of the muscles. The person who suffers from varicose veins, therefore, should immediately place himself on the Vital Diet and make every effort to build up his general health. Since muscles are made of protein, he should carefully check his protein intake and see that he gets 60 grams of animal protein daily, largely from meats, eggs, cheese and yoghourt. The vitamins of the B family are particularly important because they are essential to

the production of energy necessary to the contraction of muscles. The pain of varicose veins, for example, has been helped with massive doses of vitamin B₁. The person with varicose veins should obtain at least 300 milligrams of vitamin C daily, for this vitamin is needed to keep the walls of the blood vessels strong and to prevent the formation of varicose ulcers. Should ulcers already exist, massive doses of vitamin C are indicated to speed healing. The dietary rules outlined here should also be used in the correction of phlebitis.

FEEDING THE SICK

No book would be complete without some discussion of feeding the sick. In no other instance have the principles of sound nutrition been so neglected as in feeding ill persons. Even the best hospitals fail to give patients the diets which meet their body needs. The present condition is admitted by leading physicians to be a national disgrace in America. Analyse the diet of any ill person and you will likely find that almost every vitamin and mineral is either undersupplied or lacking. The sicker the person, the worse the diet: tea, toast, bouillon, refined foods, and overcooked vegetables.

Especially during illness every bite of food put in the mouth should build health and every body requirement must be supplied. There is probably no illness in which fish-liver-oil capsules, powdered brewers' yeast, and bran-free wheat germ cannot be taken to advantage. Instead of any juice which happens to strike the patient's fancy, freshly squeezed, strained fruit and vegetable juices, chosen for their vitamin content, should be drunk. A large variety of pureed green and yellow vegetables can be used, and the softer high vitamin fruits should replace the insipid custards, junkets, and gelatine desserts now served. When very little food can be caten, a tablespoonful of black molasses could advantageously be taken every hour to maintain the blood sugar at its normal level and to add both vitamins and minerals. Small frequent meals should be served so attractively as to stimulate the patient's appetite.

In the dietary treatment of any illness or abnormality, there is but one underlying rule which must be followed if ideal health is to be gained: the foods eaten must supply protein, carbohydrate, fat, all minerals, and all vitamins needed by the body.

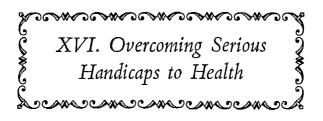
EATING TO PREVENT SICKNESS

Modern nutrition shows us what foods to eat day after day, month after month, and year after year in order to build and maintain vitality and radiant health. The health of an informed adult, provided irreparable damage has not already been done, is in his own hands. Over a period of twenty years I have observed definitely and undisputably that when the needs of the body are not supplied in the foods eaten abnormalities of one kind or another inevitably result, and not life but breakdowns often begin at forty.

People differ from animals in that they have brains. Animals eat foods they happen to like; they have instinctive but not reasoned knowledge of foods. The person who eats only the foods he enjoys without any concern as to whether or not they can build health is lowering himself to the level of an animal. He is not using his God-given intelligence.

The important fact which I want to leave with each of my students—and it is so important that I cannot emphasize it enough or repeat it too often—is that one must eat wisely,

not for a month or a year, but for a lifetime.



INFECTIONS, ARTHRITIS, COLITIS, ULCERS, AND OTHERS

Most people suffer from some kind of an infection at one time or another. It is, therefore, important to understand the changes that occur in the body before an infection can set in. It is also important to know how to aid the body in preventing and overcoming any type of infection. Regardless of the nature of an infection, both prevention and dietary correction are essentially the same. For example, if one wishes to prevent a baby from getting pneumonia, protect an eight-year-old child from an ear infection, a woman from sinusitis, or an elderly man from prostatitis, certain nutrients such as vitamins A and C must be abundantly supplied before the body can build resistance. Similarly, in correcting any infection, certain nutrients must be supplied in order that the body can mobilize its defence mechanisms.

INFECTIONS IN GENERAL

Infections occur when cells in the body die. Live cells can defend themselves. It is only upon dead cells that bacteria thrive. If bacteria reach a food supply, they can mulciply to such an extent that illness is likely to result. For example, if the blood pressure becomes low, sufficient food and oxygen fail to reach the cells, and many cells die of starvation; hence resistance becomes low. When anæmia exists, too little oxygen can be carried to the cells, and many of them become asphyxiated. In case of a vitamin C deficiency, cells starve because capillaries break and the blood spills into the tissues; hence food

and oxygen fail to reach them. These conditions lower the resistance to infections.

THE ROLE OF VITAMIN A

The most common deficiency causing cells to die and serve as food for bacteria is a lack of vitamin A. When this vitamin is undersupplied, millions of cells die, mainly in two tissues: those covering the outside skin, which includes the nails and covering of the eye, and those forming the inside skin lining all the body cavities, such as the mastoids, middle ears, throat, sinuses, lungs, digestive tract, kidneys, gall bladder and urinary bladder, and vagina. Infections of the skin (such as pimples, boils, and impetigo), the eyes, fingernails, and external genitalia should therefore be helped with massive doses of vitamin A. Large amounts of vitamin A have produced excellent results in the treatment of infections of the lungs, such as bronchitis, pneumonia, and tuberculosis; of infections of the digestive tract, as gastritis, enteritis, colitis, and ulcers; and infections in any of the inner skin, whether of the kidney or middle ears. As much of the vitamin should be obtained from liver and green and yellow fruits and vegetables and their juices as possible. In addition it is wise to take one to three capsules of fishliver oil containing 27,500 units of vitamin A after every meal and before bed for two or three weeks; then the capsules can be decreased to one daily. As much as 600,000 units of vitamin A have been given daily in the treatment of certain infections. Although such a large amount is probably not needed, it can do no harm. Any vitamin A not used by the body immediately is stored to safeguard future health.

Infections known to result when vitamin A is undersupplied are not contagious. Evidence is accumulating which indicates that generous amounts of vitamin A will build up resistance to contagious infections and keep them from becoming severe; that its lack plays a part in susceptibility to contagious infections. For example, in experiments conducted at the University of Rochester animals were put on vitamin-A-deficient diets for varying lengths of time; then disease-pro-

ducing bacteria were injected into them. The seriousness of the illnesses and the number of deaths resulting were in direct proportion to the length of time the animals had been kept on the deficient diet. Dr. Tisdall of the University of Toronto showed that, when animals were kept on the same diet except that some were given more generous amounts of vitamin A than others and all were fed typhoid-producing bacteria, few of those receiving much vitamin A became ill whereas three-fourths of the deficient animals died. During any infectious disease, whether it be mumps, whooping cough, scarlet fever, chicken pox, influenza, or any other such infection, massive doses of vitamin A are indicated. In measles especially, where the eyes so often become involved, the giving of 200,000 or more units of vitamin A daily should be a standard treatment.

THE ROLE OF VITAMIN C

Vitamin C is of tremendous importance both in building resistance to infections and in helping the body fight infections. Whenever bacteria or bacterial toxins or any other foreign materials get into the bloodstream, the healthy body produces substances known as antibodies. These combine chemically with the foreign material and render it harmless. The action is much the same as when an acid combines with a base to form a neutral salt. Sufficient vitamin C is necessary before antibodies can be produced. Experimental animals given generous amounts of vitamin C have from five to seven times more antibodies than animals given limited quantities of this vitamin.

Bacteria produce enzymes which digest food (dead cells) for the bacteria just as enzymes in the stomach and intestine digest our food. The products formed by bacterial enzymes are called toxins. They are foreign materials capable of doing great injury and are largely responsible for the symptoms associated with infections and infectious diseases. The healthy body, however, aided by vitamin C₂ protects itself from toxins by producing antibodies. In this way vitamin C is essential for both the prevention and correction of infection. For example, people known to be deficient in vitamin C are particularly susceptible

to both diphtheria and pneumonia. Guinea pigs partially lacking vitamin C survive only about half as long as well-fed animals when given bacteria causing either diphtheria or pneumonia. The severity of the diseases and the number of deaths are found experimentally to be in direct proportion to the amount of this vitamin in the diet. Outside the body, vitamin C mixed with diphtheria toxins or with bacteria which cause pneumonia renders them harmless. Patients with both of these diseases improve markedly when given an abundance of this vitamin; they suffer from fewer nose bleeds and other hæmorrhages. The need for the vitamin is especially high during the fever stages of the diseases. This vitamin is generously given by competent physicians in both these diseases, but what interests us most is that the natural resistance to them both can be built up by the continuous inclusion of adequate vitamin C in the diet.

In any acute infection, regardless of location or the kind of bacteria involved, fresh fruit or vegetable juices should be given every hour or two. Fresh orange, grapefruit, and tomato juices are particularly valuable. If it is impossible to take this amount of juice, 100 milligram tablets of vitamin C should be purchased and one given every two hours unless a glass of juice is drunk. A total of about 600 milligrams of the vitamin should be obtained daily until the infection subsides. In cases where a vitamin C deficiency already existed before the illness, as indicated by bruises, even more of the vitamin should be taken daily for the first week, so that the tissues can become saturated. Never during any infection should less than 300 milligrams of this vitamin be obtained daily.

Antibodies are made of protein. They cannot be produced unless sufficient protein is supplied. During wartime, protein deficiency caused by the high cost and limited amounts of eggs, meats, milk, and cheese was one of the principal reasons for lowered resistance to infections. It was largely responsible for the influenza epidemic following the first World War. The protein intake must, therefore, be kept adequate by the use of eggs, yoghourt, eggnogs, cheese, and wheat-germ cereal cooked in milk.

All infections increase the need for the vitamins of the B family because bacteria require these vitamins and steal the body's supply of them. Furnishing adequate amounts of the B vitamins must be emphasized. Although the food intake need not be large during any illness, every need of the body must be met. Small, frequent meals, attractively served, should be given, and all foods should be limited to those which offer the most toward building health.

ARTHRITIS

There are a number of serious handicaps caused by infections which need particular discussion. Perhaps the one most trying is arthritis. There is no one cure for arthritis. The fact remains, however, that people suffering from arthritis do frequently make a complete recovery, and they do so by building up

their general health.

Arthritis can be produced in animals by only one means: by injecting bacteria into animals whose diets lack vitamin C. When bacteria are injected into animals kept on exactly the same diet and given adequate vitamin C, an abscess forms at the point the bacteria are injected; when the abscess breaks, the bacteria are expelled from the body. If the animals are deficient in vitamin C, however, the bacteria can enter the blood, be carried throughout the body, and are spilled into the joints. Here an infection starts which, theoretically, the body tries to wall off by depositing minerals around it; stiffness, pain, and perhaps ankylosis follow.

A number of changes occurring in the body when vitamin C is undersupplied make it susceptible to arthritis. First, the walls of the capillaries break down, forming a 'door' or hole through which bacteria, too large to pass through the walls of the capillaries, can enter the bloodstream. Capillaries, like small rubber hoses, break down at the point where they are bent most often, which is at the joints; hence other openings or doors are formed through which the bacteria from the blood are spilled into the tissues at the joints. Second, whenever capillaries break, cells die because of lack of oxygen, and these dead cells

supply food for bacteria. Third, when vitamin C is undersupplied, few antibodies, which would normally combine with and destroy bacteria, are produced; hence bacteria are free to move about in the blood. Fourth, when vitamin C is lacking, cartilage becomes like the base of bones, so that minerals can be deposited in it. Half of the story in preventing arthritis is in never allowing yourself, even for one day, to be under-

supplied with vitamin C.

Arthritis could not exist without some infection in the body which supplies bacteria. That infection may be in the gums, tonsils, sinuses, gall bladder, appendix, kidneys or urinary bladder, or prostate. The most frequent cause of arthritis. however, is infected or dead teeth. All dead teeth, whether abscessed or not, are infected. The teeth which show no abscesses are, in 96 per cent of the cases, infected with virile streptococcus and, contrary to popular opinion, are far more dangerous than abscessed teeth. If you wish to prevent arthritis have all dead teeth removed as soon as they become unhealthy, even if a thousand-dollar bridge is anchored to them. Have a full-mouth X-ray at least once each year, together with rootpulp tests which reveal any tooth whose nerve is dying.

If you have active arthritis, go immediately to your dentist and have all dead and questionable teeth removed, and have your gums treated for any pyorrhæa pockets which may exist. Bear clearly in mind, however, that the removal of infected teeth can in no way remove the bacteria that have already reached your joints; hence do not expect immediate recovery. The removal of the infection only removes the source of the bacteria and can thus play an important part in

preventing the arthritis from becoming worse.

If the examination reveals that you have some infection that cannot be removed surgically, as sinus infection, for example, or if no infection is found, put yourself on the Vital Diet modified by suggestions given in the first part of this chapter for the correction of infections. In this way your natural resistance can be built up and any existing infections, either known or unknown, can possibly be alleviated. There are physicians who claim that non-infectious arthritis exists, but animal research

indicates this belief not to be true. So-called non-infectious arthritis means that the original source of infection either has been overcome or has never been found.

The nutritional programme which produces the best results in the treatment of arthritis varies little from the Vital Diet. The daily calcium requirements must be met, otherwise calcium will be withdrawn from the teeth and bones until they become porous. Cheese and black molasses should be caten frequently; a pint of yoghourt should be taken daily. This helps to prevent or to fight any infections of the intestinal tract. If no yoghourt is sold in your vicinity, write to the leading dairies in near-by cities and ask them to send yoghourt culture to you.

An abundance of vitamin C is probably more important than any other nutrient in overcoming arthritis. At least 600 milligrams should be obtained daily for two weeks, then 300 or more milligrams should be taken daily month after month and year after year. If you become careless about obtaining this vitamin you have only yourself to blame should your arthritis become worse. Remember that, even after the original infection is removed or cleared up, bacteria can still be carried from an already infected joint to an uninfected one unless vitamin C is always generously supplied. Morcover, vitamin C is extremely important in restoring normal cartilage. Strangely enough, at times people suffering from arthritis find that pain increases when they drink much grapefruit or orange juice. The highly alkaline ash of citrus juices appears to cause greater deposition of the alkaline minerals in the joints; hence the person with this type of arthritis should obtain vitamin C from green peppers, salads, and fresh vegetable juices. In addition, he should take a 100 milligram tablet of vitamin C after each meal.

Another rule which it is absolutely essential for anyone suffering from arthritis to follow is this: avoid white flour and refined sugar in all forms; all candies, cakes, pastries, cookies, pies, soft drinks, or other devitalized foods. I have never seen a person who has recovered from severe arthritis—and I have seen many of them—who did not follow this rule explicitly.

Arthritis is not incurable. Let me tell you of a student of mine, a man of sixty-five who had been severely crippled with arthritis for five years. When I first saw him he walked with a cane, his head bent forward almost to his waist. He could not turn his head but was forced to turn his entire body when he wished to look from side to side. He could lift his arms no more than eight inches from his sides. The pain he suffered caused sleepless nights and hours of agony.

First, three dead teeth which showed no abscesses but were infected with streptococcus were removed. A medical examination revealed no other infections. He conscientiously followed the 'Seven Day Elimination Diet' once each month, then he applied the nutrition regime as outlined here for arthritis. Every day he obtained 50,000 units of vitamin A in the form of natural sources supplemented by fish-liver-oil capsules. Each morning he ate a half cup of wheat germ, and he had a tablespoonful of brewers' yeast after each meal. After taking 1,000 milligrams of vitamin C daily for a week he took a 100 milligram tablet after each meal. Each day he drank a pint of yoghourt. In all other respects he followed the Vital Diet, never once tasting refined foods in any form. During the first month there was no noticeable change in his arthritis, although his general health appeared to improve markedly. He had more pep, felt less tired, slept more soundly. At the end of the second month there was some improvement, he also was less stiff. After he had stayed on the Vital Diet for six months, however, he could stand erect, lift his arms above his head, and walk without a cane. He looked and felt fifteen years younger.

THE RHEUMATISM FAMILY

Vitamin C plays a significant role in the prevention of other infectious diseases. Special attention has been given to its connection with rheumatic fever. This disease often attacks malnourished children in northern climates where few vitamin-Crich foods are available. It is characterized by hæmorrhages in the joints and the heart, and often leaves the victim with a weak heart throughout life.

Dr. Rinehart at the University of California and Dr. Sebrell of the United States Department of Public Health have produced rheumatic fever in guinea pigs lacking vitamin C by injecting bacteria into them. The type of bacteria used makes no difference. The lack of vitamin C allows bacteria to enter broken capillaries at the place of injection. The bacteria are then carried in the blood throughout the body and spilled into the tissues at points where capillaries are broken.

Weak capillaries, as already described break down first where they are most often bent. The capillaries at the frequently bent joints and in the heart muscles, bent with each beat of the heart, wear out first. Therefore, large numbers of bacteria spill out at the joints and in the heart muscles. These studies suggest that rheumatic fever can be prevented if every person obtains sufficient vitamin C daily. By injecting bacteria into guinea pigs lacking vitamin C, infections of the valves of the heart and of the heart muscles can be produced, whereas when bacteria are injected into healthy animals, no infections result. Similar infections of the heart valves in humans cause leakage of the heart, and those of the heart muscles or of the lining of the heart are almost invariably fatal.

COLITIS

Colitis, or inflammation of the colon, or large intestine, is all too common. Persons with typical colitis suffer alternately from constipation and diarrhæa, and large amounts of mucus may appear in the stools. Since bacteria cannot live in mucus, its presence indicates that the body is putting up a fight. Even the dietary treatment for colitis is often slow in producing results because the food may pass through the body so quickly that little is digested and still less reaches the blood. The food of first importance for the person suffering from colitis is yoghourt. The bacteria in yoghourt live in the intestinal tract and break milk sugar into lactic acid which disease-producing bacteria are unable to live in. From two to four glasses of yoghourt should be taken daily. Since the intestine is lined with mucous membrane which requires vitamin A for healthy

maintenance, 200,000 units of this vitamin should be obtained daily for two weeks, then 100,000 units daily for the month following, and then 50,000 units indefinitely. Since vitamin C is important in increasing the speed of healing, 200 or 300 milligrams should be obtained daily, preferably in the form of strained orange juice. If gas pain and indigestion occur, all liquids should be drunk through a straw to prevent the swallowing of air. Small, frequent meals should be eaten, and overeating should be carefully avoided. The fruits and vegetables eaten should be chosen for their nutritive value, short-cooked, and in severe cases mashed or puréed. Puréeing breaks the food into tiny particles so that the enzymes in the digestive tract can easily surround them; thus all digestion will be more complete than if the food is not puréed. If pain and gas disturbance is not a problem, there is no reason for a soft or bland diet. The old idea that food scratches the walls of the intestine is largely erroneous because the walls are protected by the secretion or mucus. Most people with colitis make the mistake of analysing the meals eaten prior to pain or gas disturbance and believe that some type of food eaten has caused the distress. They are likely to give up so many foods that their diet often becomes extremely limited and so inadequate that their health becomes progressively worse. Usually the pain is actually caused by swallowing air, eating too rapidly, failing to chew food thoroughly, or fatigue or emotional upset which has prevented food from digesting thoroughly. The actual food eaten is rarely the cause of the difficulty.

Often the condition spoken of as colitis is not a true infection of the colon but actually a deficiency of niacin, one of the vitamins of the B family. The first symptom of a niacin deficiency is constipation accompanied by halitosis and a coated tongue. If the deficiency is more severe, a tendency toward diarrhæa occurs or actual diarrhæa results alternating with constipation. When a niacin deficiency becomes advanced, continuous diarrhæa results, its severity being proportional to the need for niacin. In this case, as much as 100 milligrams of niacin amide, sometimes sold under the name nicotinic acid amide, should be taken with each meal for at least one week, then

decreased to 50 milligrams daily. A tablespoonful of brewers' yeast, supplying 25 milligrams of niacin, should be taken after each meal, and a half cup of wheat germ, cooked five minutes, should be eaten daily. Fresh vegetable juices, especially carrot juice or carrot juice mixed with milk, are of special value; they should be drunk between meals.

Diarrhea, sometimes mistaken for colitis, is frequently due to emotional upset or fear. For example, hundreds of people in Southern California suffered from severe diarrhea the night of the earthquake in 1933. People who have had diarrhea and who are afraid to eat certain foods for fear of becoming worse often do become worse following a change in diet because of that very fear. In such cases fresh apple juice should be drunk freely, and the Vital Diet should be carefully followed. If more severe diarrhea does occur following a change in diet, it should be ignored. Improvement should not be expected until about two weeks after an adequate diet has been adhered to.

TUBERCULOSIS

Another infection, tuberculosis, has long been known to be the result of malnutrition. It is probably correct to say that if the diet of all persons could be kept entirely adequate, tuberculosis would become an unknown disease. If the person with tuberculosis would follow the Vital Diet day after day and year after year, in all probability all of his needs would be met and, unless the disease is too far advanced, recovery would result. There are, however, certain body requirements which are of such importance that they should be emphasized. For example, during recovery, tubercular lesions containing the dangerous bacteria are walled off from the remainder of the lung by a capsule not unlike bone in structure. The formation of this capsule is the major factor in recovery. A substance known as scar tissue, which is much like cartilage, is first deposited around the bacteria, thus walling them off from the healthy tissue of the lung. This cartilage-like substance depends upon vitamin C for both its formation and its strength. Experiments have shown that persons with active tuberculosis require

as much as 300 milligrams of vitamin C daily, or more than twice that needed by a healthy individual. If vitamin C is undersupplied, the scar tissue is weak and irregular and slow in forming. In order that the scar tissue may be well calcified and the wall of minerals be strong, adequate calcium must be supplied daily. At least a quart of yoghourt, a serving of cheese, and two tablespoonfuls of black molasses should be had daily to supply calcium. The essential fatty acids in the vegetable oils, particularly peanut oil, are thought to be especially valuable in fighting tuberculosis. The patient should use as much vegetable oil as his weight permits. At least 2,000 units of vitamin D, which increases the deposition of calcium, should be had daily. The requirement of both vitamins A and the B family is increased by tuberculosis. No less than 50,000 units of vitamin A daily should be taken if recovery is expected. Wheat germ, yeast, liver, and black molasses should be used to ensure an abundant intake of the entire B family.

After tuberculosis has been arrested, strong scar tissue walling off the dangerous bacteria must be maintained or the disease can again become active. This important step in preventing the recurrence of tuberculosis has not been adequately emphasized. The Vital Diet, adequate particularly in vitamins C and D and calcium, must, therefore, be continued indefinitely.

GALL BLADDER INFECTIONS

Infections of the gall bladder have long been treated by dietary means, although such diets have been far from constructive. Too much emphasis has been placed on omitting fats from the diet and too little on helping the body to fight the infection. The inside of the gall bladder and the tiny canal leading from the liver and the gall bladder to the small intestine, called the bile duct, are lined with mucous membrane. In order to overcome any infection of this membrane, massive amounts of vitamin A must be included in the diet. Unfortunately, the fat-soluble vitamins, A, D, E, and K, are carried across the intestinal wall into the blood by substances secreted in bile, known as bile salts. If bile is absent from the intestinal

tract, these vitamins fail to reach the blood. When an infection occurs in the gall bladder, the bile duct is often so swollen that very little bile can pass through it to the intestinal tract; hence vitamin A is not well absorbed even though it may be adequately supplied in the diet. Almost without exception, the person with gall bladder infection suffers from night blindness resulting from vitamin A deficiency. In order that this vitamin may reach the blood, a tablet of dried bile, free from cascara or other laxatives, can be taken with each meal together with vitamin A capsules.

Bile causes fats to be broken into tiny droplets which can be surrounded by the fat-digesting enzymes. If bile is not present. the fats eaten remain in such relatively large pieces that they are very incompletely digested. The undigested fats cover the surfaces of other foods and prevent the starch-splitting, sugarsplitting, and protein-splitting enzymes from reaching these foods. In the absence of sufficient bile, therefore, digestion is very incomplete; as a result large amounts of gas are likely to be formed by bacteria in the large intestine living off of these undigested foods. To prevent this condition, the standard dietary treatment of gall bladder infection has been to avoid all fats except small amounts of cream, butter, and oils which readily melt at body temperature and which, therefore, break up into small droplets more or less digestible without bile. If the person suffering from gall bladder infection is overweight, it is well for him to avoid all fats. On the other hand, if underweight is a problem, a moderate amount of fats can be eaten with meals provided bile tablets are taken to replace the normal flow of bile. Since small amounts of food digest more completely than large ones, persons with gall bladder infection should eat small, frequent meals. Except for the changes mentioned here, they would be wise to follow the Vital Dict.

ULCERS

In few instances has the diet used in the correction of disease been so disgracefully inadequate as that given to persons suffering from ulcers of the stomach or duodenum. The Sippy diet,

which consists of taking milk and cream every two hours, was first used in 1886 when the science of nutrition was unknown. Yet it is still in general use. The principles upon which it was built, however, are as unsound today as they were then.

An ulcer is nothing more than a sore in the wall of the stomach or intestine. The normal stomach secretes strong hydrochloric acid from which the stomach and intestinal walls are usually protected by a covering of thick mucus. The ulcerated spot, however, cannot produce mucus by which to protect itself; yet the ulcer cannot heal readily with strong acid pouring over it. The reason for recommending that an ulcer patient drink milk and cream every two hours is that milk combines with hydrochloric acid and cream inhibits its flow; thus acid is kept from the ulcer until it has a chance to heal. The person who wishes to recover from an ulcer should drink a glass of milk every two hours or, if the pain is severe, half a glass every hour. If the patient is overweight, skim milk can be used.

The difficulty with a milk diet, however, is that it is inadequate in almost all vitamins and in iron and copper. Cases have been reported in the Journal of the American Medical Association of people who have developed both scurvy and beriberi, diseases caused by an almost total lack of vitamins C and B₁, while living on a milk diet. The milk and cream diet, therefore, must be modified in order to make it adequate, to increase rapid healing, and to prevent the recurrence of ulcer.

Two new methods used in the correction of ulcer have met with marked success. One is the giving of massive doses of vitamin A, which maintains the health of mucous membrane lining the walls of the stomach and intestine. As much as 600,000 units daily have been given, but 200,000 units daily have appeared to produce equally satisfactory results. The other treatment is that of giving 1,000 milligrams of vitamin C daily for three days in the form of 100 milligram tablets; the amount is increased by 100 milligrams daily until the dosage reaches 2,000 milligrams; this amount should then be continued indefinitely. This large amount of vitamin C stimulates the formation of scar tissue and causes the ulcer to heal rapidly. Citrus

juices are usually avoided because of the citric acid they contain, but vegetable juices, especially carrot juice, can be used freely. These two methods are excellent and are to be recommended to anyone with an active ulcer. Even with whole milk and ample amounts of vitamins A and C, the diet is still markedly inadequate.

The person with an ulcer must obtain the vitamins of the B family. At least a half cup of short-cooked wheat germ should be eaten each morning, and a tablespoonful of powdered brewers' yeast stirred into milk should be taken after each meal. All liquids should be drunk through a straw. Fish-liver-oil capsules should be taken to supply vitamin D. Iron and copper can be obtained by the use of eggs daily, preferably boiled or poached, a serving of wheat germ, and perhaps grilled liver. Salads should be temporarily avoided unless they are soft, such as those made of peeled tomatoes, soft fruits with cottage cheese, and aspics. Fruits and vegetables need be puréed only if they are not well tolerated otherwise. Thorough chewing is essential. After the ulcer has healed, it is of extreme importance to continue the Vital Diet indefinitely to maintain healthy scar tissue. Otherwise an ulcer will quickly recur.

If you have an infection, regardless of what type it may be, put yourself immediately on the Vital Diet. Increase the amounts of vitamins A and C until the infection has subsided. Supply in generous amounts any nutrients which appear to have been lacking. After the infection has cleared up, continue to eat wisely for a lifetime. Adequate sleep, recreation, emotional health, and the avoidance of over-fatigue are essential not only in the recovery from infection but also in preventing infection. I believe it is correct to say that if a Vital Diet is maintained, day after day and year after year, infections and the many resulting handicaps will be a thing of the past.



AS THE CHILD IS FED SO GROWS THE MAN

I stood in the Louvre admiring 'The Thinker,' by Rodin. Beside me was a young American woman, an acquaintance, attractive enough by ordinary standards. On close scrutiny, however, her face showed lines of dissatisfaction and unhappiness. She had told me her story: how the children had been ill all winter; there had been a siege of pneumonia besides continuous colds; and a small son had been operated on for mastoid. The winter had left her so fatigued from worry and sleepless nights and hard physical work that her husband had insisted on the holiday in Paris and had arranged for his mother to stay with the children.

Such storics were common enough, but invariably sad to anyone who holds the conviction that these illnesses are need-

less and can be prevented.

'How I wish I might be an artist!' she exclaimed wistfully. 'It must be wonderful to be able to create such beauty for others to see. I spend my life cooking, shopping, and nursing the children. I'm nothing, really, just a "hausfrau." It makes one seem so useless.'

She had touched on one of my deepest convictions: that every mother can be an artist, a sculptor; that she had it in her power to model live, vital beings of far greater beauty than anything ever created by the hand of a Rodin, a Michelangelo, or a Cellini.

'Don't you see that you can create beauty in building beautiful children?' I asked her. 'Rodin first worked in clay, then in bronze; you work with living flesh. Just as he moulded his works of art, so are you moulding the bodies and the spirits of your children. Just as he spent hours in shaping and reshaping

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clay, you spend hours in shopping and cooking. When the shopping is done with care and foods which build health are purchased, when those foods are prepared to save their vital elements to build beauty, then the kitchen has a dignity greater than the studio of any famous artist.'

We talked at great length about the foods which must be chosen to create works of human art, and she readily understood that this choice was as important as the clay and stone Rodin had worked with. Gradually I could see her wistfulness and dissatisfaction disappear; her attitude toward housework and child care changed.

Years later when I met her at a lecture I was giving in Philadelphia, she showed me three wonderful, glowing children. She had become an artist, a sculptor. She had created three works of art which were beautiful not only in body, but in mind and spirit.

Each one of you mothers should think of yourselves as sculptors. Know that you can be poor artists creating sickly, underdeveloped children or great artists moulding beautiful, happy lives. Keep this attitude always in mind, and let it lend importance to your daily tasks.

THE NEW-BORN BABY

A baby at birth is as nearly perfect as nature can make it. If substances required for the baby's body are not included in the mother's diet, her own body tissues are robbed to supply the baby's needs. If her diet is adequate in all respects, perfection can be attained. If the baby's diet supplies all of its needs, this perfection can be continued.

By far the best food for an infant is mother's milk. Popular opinion to the contrary, bottle-fed babies still have a much higher death rate and suffer from more allergies, infections, and abnormalities than do breast-fed babies. The supply of breast milk, however, is determined by the adequacy of the diet, especially in vitamins of the B family, during the first months of pregnancy.

Regardless of the type of milk fed, certain supplements must

be given if the baby is to be healthy. The amount of either breast milk or cow's milk likely to be taken in a day by a newborn infant supplies only about 1,000 units of vitamin A. If the skin is to be kept free of rashes and the baby's resistance to infections kept high, at least 10,000 units of vitamin A are needed daily. This vitamin can best be supplied by fish-liver oil which also furnishes vitamin D.

Almost no nutrient is as important during infancy and child-hood as vitamin D. Its presence in the diet makes for the development of a beautiful child. If this vitamin is undersupplied or lacking or not absorbed into the blood, the baby's teeth and the bones of its forehead, face, jaw, chin, chest, pelvis, arms, and legs become either enlarged or underdeveloped. These abnormalities cause ugliness which is carried throughout life; ugliness in the form of a narrow face, crooked or buck teeth, receding chin, pigeon chest, and knock knees or bowed legs. Vitamin D is usually given to babies, but often in the form of fish-liver-oil concentrates which frequently are not absorbed into the blood. If the vitamin fails to reach the blood, the result is the same as when no vitamin D is given.

Before either vitamins A or D can be carried across the intestinal wall and into the blood, they must combine with substances excreted in the bile, known as bile salts. Very little or no bile pours into the intestine between meals; therefore, if a fish-liver-oil concentrate is given just before the baby's bath, when no food is taken, so little bile is in the intestine that the vitamin D fails to reach the blood. Fish-liver oil should always be given directly after the baby is fed. Since fats stimulate the flow of bile more than other foods, greater amounts of vitamins A and D are absorbed and the baby's health is more greatly protected if a quantity of oil is given rather than a fish-liver-oil concentrate in drops which contains almost no fat.

Liquid cod-liver oil is probably superior to all other fish-liver oils for babies because it contains fat as well as vitamins. It is, however, somewhat low in vitamin A. If cod-liver oil is used, a tablespoonful (15 cc.) of plain halibut-liver oil should be added to a pint of the cod-liver oil to increase its vitamin A content; one tablespoonful of this mixture should be given daily from

the time the child is two weeks old until it is an adult. If either halibut-liver-oil or a cod-liver-oil concentrate is used, two teaspoonfuls can be mixed with a pint of any vegetable oil used for cooking; thus the fat needed to stimulate bile flow is obtained and vitamin Ba, E, K and unsaturated fatty acids are supplied. A tablespoonful of this mixture should be given daily. If the mother finds it easier, 10 drops of a concentrate can be given, followed by a teaspoonful of vegetable oil poured into the infant's mouth with a large medicine dropper. The mother should study the label of the product she uses to make sure that 10,000 units of vitamin A and 1,000 units of vitamin D are supplied daily. In most cases, the drops and oil should be given after both the morning and evening feeding. The usual practice of feeding a baby fish-liver-oil concentrates before its bath, when no food is given and no oil accompanies it, is responsible for poor absorption causing a tremendous sacrifice of health.

Recent research has shown that babies' requirements for vitamin C, commonly supplied by tomato or citrus juices, are unusually high. The breast milk of a mother whose diet contains adequate vitamin C supplies 100 milligrams of this vitamin in the amount of milk a new-born baby will consume in one day. This amount of vitamin C, therefore, is considered to be ideal for a growing infant. Many mothers, however, remain on diets so poor that their milk contains almost no vitamin C, whereas cow's milk averages only 6 milligrams per quart. In order to obtain enough vitamin C from cow's milk, an infant would need to drink almost seventeen quarts daily. An ounce of orange juice, the amount usually given to a new-born infant, furnishes only 15 milligrams of this vitamin, and an ounce of tomato juice only 5. Since babies sometimes get skin rashes when large quantities of citrus juices are given, the best means of supplying this vitamin is in tablet form. Tablets containing 50 milligrams of vitamin C can be purchased, readily dissolved in one teaspoonful of water, and poured directly into the baby's mouth. One tablet should be given each morning and one each evening, making a total of 100 milligrams daily. A tablespoonful of fresh, strained orange juice should be started by the second week of life and increased by a tablespoonful each week

until the child is taking eight ounces of juice daily. As the juice is increased, the tablets of vitamin C can be decreased, but at no time should the child have less than 100 milligrams of this vitamin daily. A generous amount of vitamin C allows the bones and teeth to grow normally; protects the child from infections; and is particularly valuable in helping to prevent allergies. The mother who fails to supply this vitamin adequately is running the risk of serious health problems. The time will soon come when large amounts of vitamin C are fed to babies as regularly as fish-liver oil has been fed during the last decade.

The greatest mistake made at the present in the accepted form of feeding small infants is that the vitamins of the B family are almost completely ignored. Adequate amounts of these vitamins help to maintain an excellent appetite, make for normal digestion and elimination, prevent skin rashes and eczemas, and induce sound sleep. For example, in an experiment in which 350 babies were fed from the age of two weeks a teaspoonful of powdered brewers' yeast each day for a year, the children remained entirely free from poor appetite, vomiting, colic, digestive disturbances, poor elimination, and eczemas. Addition of this simple food saves the mother hours of work, worry, and distress. A teaspoonful of brewers' yeast can easily be mixed with the baby's drinking water. Two teaspoonfuls of powdered yeast should be given at any time the child's appetite is below normal or its elimination faulty. The vitamins of the B family can be still further supplied by wheat germ, which should be the first cereal introduced. Wheat germ should be fed daily, either alone or mixed with other cereals. It can be softened in hot milk or quickly cooked, but under no circumstances should it be heated more than five minutes.

The conventional diet of an infant is extremely deficient in iron, which is not supplied by fish liver-oils, citrus juices, or milk. In fact, if a baby obtained the amount of iron it needs from milk it would have to consume seventy-seven quarts daily. The easiest way to introduce iron into the diet is by giving blackstrap molasses. If the baby is breast fed, a teaspoonful of molasses can be mixed with the yeast in the drinking water. If a formula is given, the molasses can replace part of the

corn syrup, dextrose, maltose, or other refined carbohydrate used. In this case, a half-teaspoonful of molasses should be given at first and gradually increased until it entirely replaces the refined carbohydrate in the formula. The molasses supplies large amounts of many minerals aside from iron and all of B vitamins not destroyed by heat. As the child grows older, black molasses should be its only sweet.

Instead of giving the baby ordinary water to drink it should be given water in which short-cooked vegetables have been steamed. This water supplies many valuable nutrients. It should be slightly salted with iodized vegetable salt, thereby furnishing the child with iodine, sodium, and chlorine, all of which are essential to health yet are usually neglected in conventional baby feeding. The amount of water likely to be taken in one day can be mixed with a teaspoonful of yeast and a teaspoonful of black molasses and half given in the morning and half in the afternoon; only the nipple of the bottle need be changed. This mixture can be prepared in the morning and fresh orange juice added to it before it is given to the baby.

Our programme for an infant under the age of three months may be summarized as follows:

6 A.M. Breast feeding or formula

9 A.M. I - 2 ounces of vegetable broth containing a trace of iodized vegetable salt, ½ teaspoonful of black molasses, ½ teaspoonful

of yeast, and I ounce of orange juice.

IO A.M. Breast feeding or formula; a 50 milligram tablet of vitamin C dissolved in I teaspoonful of water; I teaspoonful of codliver oil with halibut-liver oil added, or IO drops of halibut-liver-oil or fish-liver-oil concentrate with I teaspoonful of vegetable oil

2 P.M. Breast feeding or formula

BETWEEN 3 P.M. and 5 P.M. I - 2 ounces of vegetable broth containing a trace of iodized vegetable salt, ½ teaspoonful of black molasses, ½ teaspoonful of yeast, and I ounce of orange juice

6 P.M. Breast feeding or formula; a 50 milligram tablet of vitamin C dissolved in I teaspoonful of water; I teaspoonful of cod-liver oil with halibut-liver-oil added, or fish-liver-oil concentrate with I teaspoonful of vegetable oil

10 P.M. Breast feeding or formula until advised to discontinue

Sun baths starting with three to five minutes' exposure on all sides should be given daily whenever possible. The time should be increased by a few minutes daily until a half-hour bath is given, preferably between the hours of 10 a.m. and 2 p.m. It is best to oil the child very lightly with a vegetable oil like avocado or peanut oil before the sun bath because the sunlight forms vitamin D in the oils on the skin and not in the oils in the skin, as was formerly believed. The oil should not be washed off but allowed to be completely absorbed. If the baby must be bathed immediately after exposure to the sun, no soap should be used.

THE FOURTH MONTH

If all the foods recommended here are conscientiously given every day, the baby need not be fed solid foods until late in the fourth month. The first principle of baby feeding is to start with only small amounts of any new food. No more than a half teaspoonful should be given. Gradually increase the new food at the approximate rate of a half teaspoonful each time it is offered. In this way, if any food upsets the child, the upset will not be severe. This method of introducing new foods allows the child to become accustomed to both the taste and texture and prevents food dislikes which can become serious if a large quantity of any strange food is forced upon a child. A baby usually spits out any new food the first time it is given, not because it is disliked but because the texture is strange. In this case, the food should be gently but firmly inserted into the child's mouth until a half teaspoonful is swallowed.

At about the end of the fourth month any short-cooked, whole-grain cereal can be introduced. Wheat germ, however, should be given daily. All cereals used should be cooked in milk. The yolk of a hard-boiled egg can be given, mashed with a little milk or formula; soft-cooked egg and egg white are often incompletely digested and frequently the cause of allergy, hence are best avoided. Vegetables, chosen for their green and yellow colour, can be introduced gradually. For the most part these vegetables should be those prepared for the family table

given the baby mashed or puréed; canned baby foods are of necessity overcooked and much of their value is destroyed. If equipment is purchased for chopping and puréeing foods, only a few minutes are needed to prepare the baby's vegetables. Fruits should be started at about the fifth month. Very ripe, mashed bananas, chopped citrus fruits, steamed prunes or apples, apple sauce, or any fruit pulp can be given. They should be served without sugar.

In addition to the programme outlined for an infant, which should be continued in every respect, a five-month-old baby might be fed as follows:

- 9 A.M. wheat germ or any whole-grain cereal mixed with wheat germ and served with milk; followed by drinking water
- 2 P.M. cottage cheese or hard-boiled egg yolk; one vegetable, as mashed carrot; formula
- 6 P.M. mashed banana or apricot or apple or peach sauce; wheat germ or other cereal or baked Irish potato; formula or breast feeding

FROM FIVE MONTHS ON

From five months on, new foods can be introduced rapidly provided they are free from refined sugar and contain no white flour. There is no place in the baby's diet for any refined foods. Biscuits, melba toast, and other such foods should be completely avoided. The child should be allowed to cut its teeth on such foods as raw carrot sticks, raw turnip sticks, and green peppers. At the sixth month whole-grain bread, preferably untoasted, can be introduced. Salads and raw vegetables and fruits can be given much more liberally than is usual as long as the servings are kept small until it is obvious that the child tolerates them well.

By the time the baby is nine months old it can be put on three meals daily and given foods prepared for and eaten by the entire family, provided, of course, that no food which does not build health is included.

THE SECOND YEAR

During the second year of the baby's life and particularly by the time the child is three, there usually sets in a period of neglect during which illnesses of many varieties and susceptibility to disease are actually produced by mothers in their own children. By the time the child is a year and a half old its powdered yeast supply should be increased to a tablespoonful daily, and this amount should be given ad infinitum without fail. The child could now take an entire glass, or eight ounces, of citrus juice daily and probably a fourth to a half cup of wheat germ. Most important of all, the fish-liver oil must be continued daily until the bones and teeth are completely developed. If vitamin D is not supplied the growing child, its teeth become susceptible to decay; the teeth are likely to become crooked which mean that pounds and pounds may have to be paid to an orthodontist; and bones become malformed leaving marks of ugliness to be carried all through life.

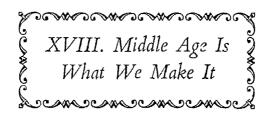
DON'T STUFF YOUR CHILD

Mothers today have a tendency to overstuff their children. This tendency is easily understood because they are attempting to get in all the foods which the physicians have told them should be eaten. In their anxiety, they often plead with their children to eat, thereby giving them attention, which is desirable to every human being. A child quickly learns that he gets more attention by not eating than by eating: he probably does the same thing any adult would do in the same situation, that is, eat only the amount of food needed to stave off the most severe hunger pains. The mother's anxiety is increased and the child gets still more attention which he finds pleasant. In order to avoid this situation, no mention of food should be made during the meal. The child should be treated exactly as you would treat me were I a guest in your home. If this simple rule is followed, a great many serious feeding problems can be completely avoided. What the child fails to eat at one meal, he will make up at the next unless he is ill or unless vitamins of the B

family are undersupplied. If powdered yeast, wheat germ, and black molasses have been served daily and no other sweet is given, any lack of appetite probably indicates illness, excitement, emotional upset, or some condition in which it is best that the child eat little. The child should, however, always be given midmeal feedings of fresh or dried fruits, milk with bread and butter, small peanut butter sandwiches, carrot sticks, or other natural foods.

In my lectures, so many mothers come to me with the complaint that their children lack appetite; that they want only sweets; and that they dislike health-building foods. Children are never born with perverted appetites; if they have such appetites, they have been taught them. If your child does not eat, first remove all refined foods from his diet. Allow no white sugar in any form. Decrease his fats by taking the cream from his milk, for fats quickly satisfy the appetite. See that the B vitamins are generously supplied. Set good food before him, and give him nothing between meals except small, wholesome midmeals; make no comment on the amounts he has eaten except to praise him when praise is deserved.

The general way of eating outlined in this chapter should be continued throughout all the years of the child's growth. The greatest emphasis should be placed on keeping all refined foods, sweets, candies, and soft drinks away from the growing child. Fed the Vital Diet, the child should be able to reach maturity without illness of any kind; without digestive upsets, nervousness, constipation, skin abnormalities, tooth decay, malformations of the jaw and bones, and the dozens of other abnormalities which are now experienced by most children. Such a child has beauty of skin, hair, eyes, teeth, and body; the skin of such a child is radiant with colour; its energies are boundless. The pleasure and pride which come to the mother-artist who has moulded such a child repay a millionfold the care and vigilance she has taken daily in supervising its nutritional regime.



A PERSONALIZED DESIGN FOR LIVING AFTER FORTY

There has recently been a belated and much-needed recognition of the problems confronting the person after forty. Prior to the Second World War industry was callous to the older worker; society itself seemed indifferent to his fate. Statisticians tell us that in our country approximately 360 out of every 1,000 people are between forty and sixty-five years of age. The health and happiness of this large middle-age group becomes, therefore, of utmost importance.

Sociological and economic as no doubt this problem is, there is also a health angle to it. The achievement of health offers both a challenge and an opportunity to every middle-aged man and woman. A challenge, because it cannot be solved by legislation as the other angles perhaps can; an opportunity, because in the last few years science has given us weapons not only for extending our lives but for prolonging our years of efficiency, usefulness, and happiness.

In my work as nutritionist and lecturer, I have become convinced, finally and irrevocably, that middle age is what we make it. Hundreds and hundreds of cases have proved to me that physiological and chronological age have little in common. In fact, your true age is physiological rather than chronological. And it lies largely in your own hands to determine your own physiological age. Food science now provides us with knowledge which, when applied, prevents and corrects premature old age.

Perhaps it will be helpful if I illustrate by one or two case histories from Hollywood, where for a number of years I have

been dietary adviser to some of the movie industry's valuable stars. In Hollywood, the shadow of the forties hangs darker than anywhere else. Klieg lights are brutally revealing. The camera intensifies skin faults and makes one look pounds heavier than one really is. And the competition of younger, more attractive players is a constant nightmare to those whose careers are affected by the slightest variations in box office figures.

L. M. had been playing the dashing hero for eight years following a long apprenticeship in stock and on Broadway. He was now at the forty mark and was frankly worried. There was a droop and a thickening of a paunch. There were wrinkles which make-up could not disguise. There was, he felt, need for immediate and exact action. L. M. and I studied his eating and living habits. They were no better and no worse than the average man's. He took an occasional drink, but not many. He did not do much exercising, although if you saw his photographs in the movie magazines you would believe he did. He did not have enough rest and sleep. He ate far too much for the amount of physical work that he did. And for years he suffered with chronic constipation.

We had a long talk. I explained to him some fundamental facts about the human body; its needs, its work, its limitations. I put him on my Elimination Dict of fruits and vegetables for one week. After that, he followed a carefully planned, well-balanced dict, such as the Vital Diet, which he continued indefinitely. He did a moderate amount of exercise to strengthen his abdominal muscles, took more rest and sleep, and limited his drinking to a glass of dry wine with dinner. In a short time he lost the pounds which were giving him a heavy-jowled, middle-aged appearance. He looked and felt years younger. Today, at forty-five, L. M. is still playing the romantic hero, and girls sigh about his 'youthful' charms as loudly as ever.

Let us take one more case history from my files, this time an average middle-aged woman who perhaps lives in your home town. We'll call her Mrs. S. She is forty-six years old and does not differ in appearance from the women you see in the market

or at the neighbourhood movie. In her childhood, Mrs. S. escaped the usual diseases except for one siege of measles at fourteen. She blossomed into young womanhood, finished her schooling, and married early. She gave birth to two children before reaching twenty-four. Both were healthy, as was their mother. Mrs. S. suffered from neither infectious disease nor accident, and she pursued a satisfyingly peaceful life through the thirties and up to the age of forty-six.

Lulled by almost complete freedom from apparent illness of any kind, Mrs. S. had for twenty years been growing more careless about her manner of living. Her digestion seemed good, so she ate what she pleased which was far from a balanced diet. She got into the habit of taking harmful cathartics. She drove a closed car all year, rarely walked, and took no other exercise, not even around the house, where her husband's comfortable salary supported a maid. Mrs. S. kept out of the sun in the summer as much as possible because she feared sunburn and lacked the patience to acquire a tan gradually. In the winter she could not find much sun—she would have liked it then, she thought—and she had no use for sun lamps because they were a nuisance. Cod-liver oil, she read somewhere and understood vaguely, 'did good things' for the body, but Mrs. S. hated the fishy taste of the rich oil, feared it would make her stouter she had become rather gross from luxurious living—and anyway she did not have to take things of that sort as she considered herself as healthy as anyone she met. Too healthy, Mrs. S. sometimes thought.

Overweight from overeating, with a heart that was gradually running down, with no reasonable hard work or stimulating recreation in her programme, Mrs. S. reached middle age and then, all at once it seemed to her, lost what she boasted of as 'my good health.' She suffered from a chronic and serious condition which was a complication of several preventable ailments. It may have been heart disease, apoplexy, hardening of the arteries, diabetes, cirrhosis of the liver, gall bladder trouble, ulcers of stomach, or nephritis. It does not matter which it was, for Mrs. S. is a composite case history. The important point is the characteristic way her experience ran. It

is so usual as to be the rule rather than the exception: good health in youth; 'breakdown diseases' in middle age. And then what: A great many people are saved by prompt attention to their eating and hygenic habits, although many never again achieve the health they might have had. Too many die prematurely, a shameful waste of human life.

Middle age brings certain health problems which must be considered and solved. Every time I face an audience, no matter in what part of the United States it may be, I realize this anew. There are the foremen who are worried about their jobs in the face of younger competition and who want to know why they get so tired? There are the women who have had a long, candid look at themselves in the mirror and seen that they are a bit too heavy, their double chins an ugly actuality. There are the successful business men with oversize stomachs who have seen a number of their friends keel over lately and who are frightened. There are all the people with stiff knees and arthritic, aching joints. They and others come in endless, monotonous procession. Only a conscious and intelligent readjustment in a correct mode of living can make of middle age a healthy and useful period of life.

Until recently we had no knowledge of how to prevent degenerative changes that set in at middle age. Even now, this newer knowledge is being shamefully neglected. Chronic diseases are not dramatic—except in the way their victims die but are insidious and subtle in their first stages. Since the span of life has for years been held at fifty-five years, a subconscious belief still exists that at forty we enter old age and should expect aches and pains. People frequently accept abnormalities without doing anything to overcome them with the simple expression, 'It's my age.' Such an attitude is foolish indeed, for abnormalities need not be accepted. The average length of life has been stretched tremendously until the years between forty and sixty can be the prime of life, where our best work can be done. Innumerable studies and experiments have proved that correct nutrition can prevent most of the diseases that strike at middle age; the results are almost as startling as the conquest of yellow fever through draining of swamps. Arthritis, high

blood pressure, diabetes, and many other diseases are no longer considered hopeless. Even such conditions as these can be curbed to allow many years of useful, comfortable life.

There is no such thing as the person in perfect health one day who drops dead of heart disease, for example, the next. In such a case, the heart degenerated over a period of months or even years, but the subtle, first signs of trouble were probably ignored, or laid to indigestion. Regardless of the nature of any disease, changes leading to that disease or allowing the body to become susceptible to it were taking place over an extended

period prior to the appearance of the disease itself.

Specifically, correct nutrition can do many things for you: it can, first of all, prevent these degenerative changes which develop into non-infectious diseases or which make the body susceptible to infectious diseases; in the early two stages of chronic disease, when there is decreased functional activity of an organ and when there is passive congestion of organs under great irritation, a planned diet can easily restore good health. If an organ shows actual degeneration, a great deal can still be done to bring about repair and both normal structure and function. For example, I know a man who had his right kidney removed some years ago; today he is well and active. In fact, he says that he enjoys life and living more than he ever did before. His infirmity made him think about his future and say to himself, 'I now have only one kidney to do the work formerly done by two; therefore, I must live in such a way as to prevent my remaining kidney from breaking down.' This man made a thorough study of nutrition, applied his knowledge daily, and since that time has regulated his diet so well that he has managed to keep well for many years.

Fortunately, most people do not have to face such an emergency. For most of the common chronic conditions—vague, minor ailments which plague middle age—a slight change in the mode of living usually suffices. What this change should be cannot be definitely stated, for it varies with each individual. It depends on a host of factors ranging from emotional preferences to economic considerations. There are, however, a number of fundamental principles which must be followed in

any 'design for middle-age living,' however else personalized. Like Mrs. S. many people arrive at middle age having enjoyed such good health without careful attention to their habits of eating that they erroneously assume this good health will continue. Actually, judged by high standards, most such people have by no means enjoyed as perfect health as they have imagined for themselves, but actually suffer many abnormalities such as colds, constipation, blotchy skin, overweight or underweight, but they have confused health with mere absence of severe disease. The body, however, is resistant to an unbelievable amount of mistreatment during the earlier years, mainly because the amount of exercise taken makes it possible to eat a fairly generous amount of foods. After forty exercise is decreased and the food intake must be curtailed unless one wishes to become overweight. The inadequate diet, together with the neglect of the preceding years, quickly shows itself in wrinkles, greying hair, loss of teeth and hair, lowered resistance to diseases, and decreased libido. In other words, perhaps you can neglect your health under forty and get away with it, at least to a certain extent; after forty, you cannot. Health after forty is what you make it. This fact must be faced. After forty, far more than during your earlier years, your health is entirely in your own hands.

Regardless of whether or not a chronic condition is present, the food intake in middle age should be reduced. With the tendency to restrict activity at this period of life, the energy requirements of the body are lessened; this means that the diet should include fewer starchy foods and sweets. There should be a minimum of two short-cooked vegetables daily, one of them a green leafy vegetable. Fried dishes, rich gravies, highly spiced foods, and heavy pastries must be avoided especially if there is a tendency to become overweight. All food should be thoroughly chewed and eaten slowly.

Make it a rule to eat only the foods that build health, and keep this rule as a goal to strive for always. Put yourself on the Vital Diet, and eat foods that meet every need of your body. If you have particular problems, such as overweight or underweight, fatigue, low or high blood pressure, adjust the Vital

Diet according to the directions given in the chapters dealing with your particular problem. Make this plan of eating a lifelong programme. Know that any time your foods fail to furnish the needs of your body, your health will suffer.

Many problems of middle age have been discussed elsewhere in this book. For example, the greying and falling of hair was discussed in Chapter XII; both conditions can largely be prevented and probably, with careful adherence to the rules, corrected. Pyorrhæa, discussed in Chapter XII, usually appears at middle age and is responsible for the loss of teeth a few years later. Nothing ages a person so much as the loss of teeth. Yet pyorrhæa can easily be prevented and usually corrected by simply eating daily a serving of cheese, a pint to a quart of yoghourt, and two glasses of fresh citrus juice or 300 milligrams of vitamin C from other sources, and by obtaining at least 1,000 units of vitamin D. The fatigue problem of middle age and partial impotency were discussed in Chapters XI and XII.

A serious problem of middle-aged women is that of menopause, which, if the woman is healthy, is actually no problem at all. The woman in perfect health passes through this period of life as normally as she did through puberty, which she was probably unaware of. Most of the difficulties experienced at menopause are brought on by numerous causes. Poor nutrition ranks first and can easily be corrected. The fear that one's sex life is over often plays an important role. This belief is ridiculous because no change results in one's desire or ability to express physical love. In fact, many women whose erotic life has been marred by the fear of pregnancy find that physical love after this period brings satisfaction heretofore unknown. The fear that she will lose her beauty and quickly age also enters as a factor causing abnormalities during the menopause. Actually the woman is freed from the burden of child bearing and from the hard work of raising children; if she takes care of herself and is careful to eat wisely she can become more beautiful and look even younger than she did during her years of drudgery. The change in life can be, for the alert woman, her chance in life. Her energies are freed for the many things she

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has always wanted to do: the books she wanted to read; her club work; her garden and church activities; and many pleasures she had not time for during her earlier years.

The woman who wishes to pass through her menopause normally should follow the Vital Diet outlined in Chapter VII. She should be especially careful to obtain a quart of yoghourt, a serving of cheese, and one to two tablespoonfuls of molasses daily, for her calcium requirements increase at this period. Ovarian hormones aid in the utilization of calcium, and as the activity of the ovaries slows down, poor utilization of calcium causes the irritability and insomnia together with loss of teeth which so often accompany menopause. A deficiency of calcium, of course, exaggerates these symptoms. At least 1,000 units of vitamin D, in the form of non-fattening fish-liver-oil capsules, should be obtained daily to insure normal calcium absorption. The iron requirements are high because of previous losses due to years of menstruation; hence the iron intake must be carefully checked. The need for iodine is increased at menopause due to glandular change, and iodine-rich foods are desirable in addition to the constant use of iodized vegetable salt. The vitamins of the B family are especially important, and as much of them should be included in the daily diet as is possible. These vitamins can assist normal glandular activity, keep the menopause from setting in too early, and delay premature signs of ageing.

Correct nutrition promises to become more and more important in the prevention of premature middle age. It has been shown, for instance, that the need for vitamins is as great after forty as it is in childhood. Dr. Cowgill has found that vitamin B₁ deficiency among middle-aged people, especially men, is quite pronounced. Experiments recently concluded in England indicate that bones and teeth are rebuilt throughout life and that the need for calcium and vitamin D does not diminish with age, as was previously believed. An important part of my work has been in the field of nutrition and beauty. I have been able to help many stage stars, society women, and models to overcome their problems concerning their complexion, teeth, and other beauty troubles through a change in

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diet. In the words of Professor Henry C. Sherman, of Columbia University, 'It is now clear to anyone who will study the evidence that nutrition has greater constructive power than science has foreseen. Even in the everyday choice of foods we are dealing with values which are above price for health, efficiency, duration and dignity of human life.'

There is, also, a very definite example of what nutrition can do if actually applied on a large scale. Since its inception, Mormonism provided for its members a definite set of rules for attaining and retaining health. In the word, of Wisdom, Joseph Smith, the Founder of Mormonism, set down these provisions: 'use meat in moderation; do not drink or smoke; use generous amounts of fruits and vegetables; live simply.' What has been the result of these rules on the Mormons as a people: Reliable vital statistics of the Mormons as compared with those of the leading nations, furnished by the Health Year Book of the League of Nations, give us the answer. The average birth rate of twenty-five leading nations was twentytwo per thousand of population whereas that of the Mormons was thirty per thousand, which implies greater health. The average death rate of the nations was fourteen per thousand contrasted to that of the Mormons of seven and a half per thousand, which implies an increasing length of life. The survey also showed that, compared to other groups, very few Mormons died of cancer, heart disease, kidney diseases, and high blood pressure, the leading causes of death among Americans as a whole.

Such statistics show the value of applying nutrition as a means of preventing the degenerative diseases which cause such untold suffering and expense during the later years of life. Cancer, for example, is unknown among primitive peoples whose diets are adequate and who eat only natural foods. Hundreds of experiments have shown the value of good nutrition in preventing not only cancer, but all degenerative diseases. The degree of health you will enjoy after sixty is being determined by your eating and hygienic habits after forty. Plan not only your present health but your future health, and make your later years the best of your entire life span.

Correct nutrition is, of course, not the whole story. Some exercise, sufficient rest, and a youthful outlook are each of great importance. The specific hazards of middle age must be avoided. For example, after forty there is sometimes present a spirit of bravado and recklessness, a last-fling psychology which is almost terrifying in its intensity. It is this psychology which makes many middle-aged men blossom out in loud ties and which is responsible for May-November attachments. It causes a fifty-year-old man to insist on playing a fast game of tennis with his college son, perhaps with fatal results. On the other hand, stopping work without making provisions for other interests can be equally bad from the health viewpoint, There is nothing quite as ageing as the realization that one is no longer useful to anyone. Develop hobbies. Do church work, club work, or social service work. How much better it is to work out than to rust out, and it takes longer!

Middle age is what we make it! There are examples galore to prove that. Whereas Steinmetz and Caruso passed away at the prime of life, Edison and Tolstoy lived long and useful lives, largely because they have had a definite 'personalized design for living'. In the clear light of research and statistics the only insurance against premature senility is careful attention to nutrition and hygiene. This offers the solid hope, hope already definitely substantiated, that middle age can be free from illnesses and one can be as efficient as during the earlier years of maturity.

'The man after forty is a bad accident risk,' has been one of the charges of industry against middle age. In a survey which differentiated between jobs held by the young and the middleaged, The British Industrial Health Research Board found that men over forty were more careful than their younger competitors. Experience and age have made them so. 'Bad physical risk,' is a more scrious charge, but can be met if the person after forty will make the effort to build up his health. Middle age can be a healthy age, but each individual must make it so.

We have the weapons and the knowledge by which health can be obtained. The application of this is the challenge and the opportunity for our generation!

THE NEW SCIENCE OF GERIATRICS

For years we have had pediatricians, and our babies are the best fed in the world, but the care and feeding of our older people has remained the stepchild of science. There is cause for rejoicing, for right now the science of geriatrics, ger-indicating old age and -iatrics meaning therapy or the care of, is making mighty progress. Geriatricians will become as well known as pediatricians. Through this newer knowledge the later years of life can become happier, healthier years of useful, wise endeayour.

All too often one hears someone remark that he does not wish to live beyond the age of sixty-five or seventy-five. Such a speaker is associating the later years with decrepitude and illness so common that they are thought of as inevitable. Actually, for the person who has knowledge of scientific nutrition and who applies it, these years should truly be the Golden Age. The elderly person is freed from the strenuous duties of the preceding years and has time to do the things he has really wanted to do. He can discover the delights of good music, good literature, stimulating conversation, and a hundred varieties of hobbies. Can anyone recall the later years of Chief Justice Holmes without feeling that those years were actually his prime of life? To the person who is healthy and emotionally an adult the later years are anticipated as the best life offers.

Unless irreparable damage has already been done, health can be built up at any age, regardless of whether one starts at sixty-five or at ninety. I recall a student of mine, a man of seventy-six who had suffered for many years from faulty elimination, nervousness, neuritis, underweight, and insomnia. At this time he enrolled in one of my nutrition classes and applied the teachings religiously by eating daily the foods

supplying all the nutrients his body required. He made it a rule to undereat. As each year passed, his health improved. He found that he felt better and had more energy than he had had during the previous thirty years. At eighty-five he was erect, mentally and physically alert, and his eyes were so keen that he could read as much as he desired and drive his car at night. He had frequently remarked at seventy-five that he was living on borrowed time; at eighty-five he would remark that he was living on earned time, for he knew he had earned his health through his own efforts.

All too frequently age is used as an excuse for accepting abnormalities resulting from malnutrition. Because these abnormalities are of such common occurrence, people believe them to be unavoidable and make little or no attempt to prevent or correct them. Many elderly people, for example, find that their vision is dimmed, their eyes weak, and that they frequently suffer from visual fatigue. They fail to realize that these symptoms may be exactly the same as those experienced by a person of twenty who lacks vitamin A or perhaps vitamin B₂. Scientific studies made with an adaptometer indicate that as many as 80 per cent of older people suffer from typical vitamin A deficiencies which cause them to be blind at night and sensitive to light during the daytime. If fruits and vegctables are chosen for their green and yellow colour and vitamin A capsules, containing 20,000 to 50,000 units each, are taken after each meal, such night blindness quickly improves. The lack of vitamin B2, or riboflavin, also causes dimmed vision, especially at twilight, often accompanied by swollen eyelids and a tendency of the eyes to become swollen and bloodshot. Milk, sour milk, and especially yoghourt are rich sources of vitamin B2. A pint of yoghourt daily should be used to overcome this deficiency. In the correction of severe vitamin B₂ deficiencies, as much as 10 milligrams of pure riboflavin have been given after each meal. This quantity is sometimes continued for six months. Aside from vitamin B2, several vitamins of the B family, especially inositol and para-aminobenzoic acid, play a role in the maintenance of normal vision. These vitamins can best be obtained through the daily use of black molasses,

wheat germ, yoghourt, and brewers' yeast. Vitamin C also plays a role in the maintenance of normal vision. In cases of visual abnormality, at least 500 milligrams of vitamin C should be obtained daily from natural sources, supplemented if necessary by tablets of the vitamin. When your diet fills all the body needs, marked improvement in vision usually follows regardless of age.

CATARACTS

Cataract can be produced in animals lacking vitamins C, B₂, and certain constituents of protein known as amino acids. Certain types of cataract in humans are known to be caused by lack of vitamin B₂ and, if not too far advanced, disappear when 30 milligrams of this vitamin are taken daily. Even when cataracts resulting from vitamin B₂ deficiency have become too far advanced to be dissolved, when nutritional improvement begins, research indicates that the further development of cataracts can be halted. Certain types of cataracts, however, do not respond to diet. Such cataracts can be removed permanently and safely by surgery; these operations have been a blessing to many who faced the future with fear of permanent darkness.

MENTAL LET-DOWN

Another problem of all too common occurrence during the later years is that of poor mental health. People frequently find that they do not think as clearly or as alertly as they did in preceding years. They often suffer from forgetfulness which may be such a source of worry that they imagine themselves losing their minds. In an experiment conducted in a Philadelphia hospital, a number of elderly people were placed on a diet lacking the vitamins of the B family. As soon as definite deficiencies were produced, they were given mental tests. Vitamin B₁ was then given and the tests repeated; later all of the vitamins of the B family were supplied in generous amounts, and again the tests were made. It was found that

during the time they were deficient in the B vitamins their thinking was slow and foggy. They had difficulty in remembering. They became depressed, and their judgment and foresight were far inferior than when all of the B vitamins were supplied. The addition of vitamin B₁ brought improvement, but it was slight compared to the marked change noticeable as soon as all the vitamins of the B family were administered.

Dr. Spies of the University of Cincinnati points out that people who have formerly been alert, courageous, and mentally eager become depressed, fearful, apprehensive, and suspicious when another of the B vitamins, niacin, is undersupplied. These mental symptoms are the first of all bodily changes to appear during macin deficiency. When 50 milligrams of this vitamin are given with each meal for a few days, marked improvement in mental health is noticed. Anæmia usually results in forgetfulness because the brain is undersupplied with oxygen. This abnormality is extremely common during the later years, particularly in women. If you have difficulty in remembering, especially if your colour is not good, you should make every effort to build up your blood (see page 234). A failure to eat between meals also leads to foggy thinking and forgetfulness; in this case the brain is undersupplied with sugar, its only source of energy. If you feel that you are easily depressed, worry excessively, and forget what you start to do by the time you have your hand on the doorknob, then have one or two tablespoonfuls of molasses daily to supply sugar, iron, and copper, eat wheat-germ cereal each morning for breakfast, and have a tablespoonful of yeast after each meal. In a short time you will probably feel like one of my students who, after making these simple changes, exclaimed repeatedly, 'Why, I haven't thought so clearly in years!'

HIGH BLOOD PRESSURE

High blood pressure is often a problem during the later years. High blood pressure is due to the contraction of tissues in the walls of the blood vessels, causing the blood vessels to become smaller than normal. The effect is as if a large garden

hose were replaced by a small one, but the amount of water passing through it were kept the same. The outward pressure of the water against the walls of the small hose would be much greater than if a larger hose were used. In a like manner, the outward pressure of the blood against the walls of the blood vessels is greater if the blood vessels decrease in size. The danger of a tremendous pressure against the walls of the blood vessel is that it may cause a wall of a blood vessel to break. Should this happen, a clot, or thrombosis, is formed which may lodge in the small capillaries of the brain, causing paralysis, or in the heart muscle, causing angina pectoris. Such a clot can shut off the flow of blood to such an extent as to be fatal.

There are many influences which can cause the contraction of the blood vessels. In cases of obesity, for example, the blood vessels are smaller because such large amounts of fat are deposited around them that they are squeezed together. Nervousness and irritability often cause the tissues in the walls of the blood vessels to contract. Such irritability may be caused by a lack of calcium, of vitamin D, or of vitamins of the B family, particularly vitamins B₁ and B₆. Perhaps the most common causes of high blood pressure are emotional upsets, frustrations, worries, and anxieties. During strong emotion the body normally prepares itself for action necessary to overcome the difficulty involved. The walls of the blood vessels contract in order that greater pressure may be exerted against them and larger amounts of vitamins, minerals, oxygen, and other foods carried by the blood can be forced into the tissues, making them ready for the action to take place. Such blood pressure can be made normal only when the mental hazard causing the emotion is removed.

Since the vitamins of the B family are so intimately related to mental health, these should be taken in massive amounts by anyone suffering from high blood pressure. The diet should be kept adequate in all respects. Three glasses of yoghourt and a serving of cheese should be consumed daily to supply calcium; 1,000 units of vitamin D should be furnished by fishliver-oil capsules to ensure that the calcium will be used efficiently. Since vitamin C gives strength to the walls of the

blood vessels, it helps to prevent a stroke and is perhaps the most important nutrient in the diet of a person with high blood pressure. Generous amounts of citrus juices and other vitamin-C-rich foods should be eaten, and these should be supplemented when necessary by tablets of this vitamin. At least 300 milligrams of vitamin C are needed daily if the walls of the blood vessels are to be kept strong enough not to break when the pressure against them is increased.

Two other vitamins, A and P, have been used successfully in reducing high blood pressure. The vitamin A procedure consists of taking 50,000 units of this vitamin in the form of fish-liver-oil capsules after each meal and before bed, making a total of 200,000 units daily, for two weeks' time. Then the amount is dropped to 100,000 units daily and continued until the blood pressure becomes normal. Vitamin P is found in lemon rind and can be extracted by grinding the rind, covering it with water, bringing it to a boil, and letting it stand for twenty-four hours; the liquid is then drained off and drunk. Neither the amount of vitamin obtained in this way nor the amount needed is known.

The person with high blood pressure must keep his protein intake adequate or at about 60 grams daily. The old idea that protein causes high blood pressure has been disproved, and avoiding protein can even do damage. In certain cases, high blood pressure cannot be reduced readily because the arteries are hard and cannot expand to accommodate the increased amount of blood called for by sudden activity.

Dr. Steinle and Dr. Kountz of the St. Louis City Infirmary have shown that a high protein diet is particularly valuable in building up the walls of the blood vessels in the aged and in correcting cases of 'incurable' hardening of the arteries. Hardening of the arteries has been produced by Dr. King of the University of Pittsburgh by injecting bacteria or bacterial toxins into guinea pigs lacking vitamin C. Animals fed sufficient vitamin C were unaffected by the injections. It appears that these substances damage the walls of the blood vessels in the absence of vitamin C, causing minerals to be deposited which prevent the walls from being elastic. If adequate vitamin C is added to the

animals' diet, the vessels gradually become elastic again and the blood pressure drops to normal. These experiments suggest that if one wishes to avoid hardening of the arteries, the diet should always be adequate in vitamin C and the body should be kept as free as possible from such sources of bacteria and bacterial toxins as dead teeth, infected tonsils, and other infections; that vitamin C is extremely important in treating high blood pressure associated with hardened arteries.

Aside from keeping the nutritional regime entirely adequate, it is important to observe carefully certain food habits. If the blood pressure is particularly high, no more than one or two glasses of liquid should be drunk at any one time; as liquid passes into the blood it increases the blood volume, thereby increasing the pressure against the walls of the blood vessels. The three meals daily should be kept small, and larger amounts of food should be eaten between meals. Eating large quantities of food at any time causes the blood pressure to be increased, particularly in the vessels surrounding the digestive organs; as a result large numbers of strokes occur at Christmas, and other holidays when there is too much 'feasting.' The person afflicted with high blood pressure should avoid large meals and try to be calm and relaxed at all times. Sudden activity increases the blood pressure in the part of the body used and can easily lead to a stroke. If persons whose blood pressure is high carefully observe all of these rules they can usually live a normal life span; they often can reduce blood pressure to that desirable for their age.

BRITTLE BONES

Another health problem which frequently causes great distress and suffering among elderly people is that of broken bones. Even the fear of falls that may result in broken bones haunts people during their later years. Research has shown that if the nutrition is kept continuously adequate, bones strengthen with advancing age; each year more minerals are deposited in them. The susceptibility of bones to breaking is caused by years of eating foods deficient in calcium and in vitamins C and D.

Every elderly person should set out to make his bones so strong that a fall at eighty will be no more dangerous than one at twenty.

The minerals in bones are deposited in a tissue similar to cartilage. This cartilage-like substance forms the basis of every bone in the body and depends upon vitamin C for its toughness and elasticity. Even in advanced old age healthy bones are elastic provided adequate amounts of vitamin C, or 200 to 300 milligrams, are included daily in the diet. The minerals calcium and phosphorus deposited in this cartilage-like base give the bones hardness and strength but not elasticity. These minerals can be supplied by the abundant use of dairy products. These foods must be well digested and the minerals absorbed into the blood; hence ample vitamins of the B family must be obtained. The absorption and effective use of both calcium and phosphorus depend upon the presence of vitamin D, 1,000 units of which should be included in the daily diet.

When the diet is completely adequate, broken bones can be healed as quickly at the age of ninety as at the age of twenty. If bones are broken, unusually large amounts of vitamin C, D, the B family, and calcium and phosphorus should be given to ensure rapid healing. In studies made at a Boston hospital, elderly people whose diets had been inadequate in vitamin C had to be given 4,000 milligrams, or the amount which would be obtained from forty glasses of orange juice, before healing set in. Vitamin D could well be increased to 3,000 units daily. The B vitamins could be supplied by a half cup of wheat germ and three tablespoonfuls of yeast daily, taken preferably in unsweetened lemonade or grapefruit juice.

THE PROSTATE

A problem which is often severely annoying to elderly men is that of infection of the prostate gland. The prostate gland is situated around the neck of the urinary bladder. Its purpose is to supply fluid to carry sperm. If it becomes inflamed and swollen, the urethra, or canal leading from the urinary bladder to the outside of the body, is pinched together, making it difficult for

the bladder to empty. When the bladder is completely filled, the pressure from above can become great enough to force open the urethra, but often when half empty the force of the swollen gland is greater than that of the liquid and the urethra again closes. At any time when urination becomes difficult, therefore, inflammation of the prostate gland should be sus-

pected and your family physician consulted.

Infection of the prostate in animals can be produced by diets lacking in vitamins A or C. Such infections are corrected after the diet is again made adequate. As much as 200,000 units of vitamin A and 400 milligrams of vitamin C daily have been used with excellent results in correcting infections of the prostate. The pressure of hard fæcal matter in the rectum against the prostate gland often causes irritation, hence the diet should be kept laxative by the inclusion of generous amounts of yoghourt, black molasses, yeast, and wheat germ. These simple changes, together with a complete diet, can frequently alleviate difficulties of the prostate and prevent their return.

Many other abnormalities often endured by elderly persons can be readily overcome if foods are carefully chosen to meet the body needs. Many of these problems are discussed in Chapters XI, XII and XIII.

VITAMINS-RICH MEALS ARE VITAL

The diet of an older person, particularly one living alone, is likely to be soup, biscuits, tea, toast, and overcooked vegetables. Such a diet is inadequate in every respect. Salads are often avoided by elderly people because of their inability to chew well. Many valuable foods are foregone through fear that they may bring digestive distress. The ill health endured by most elderly people has thus been produced in themselves as surely as disease is produced in experimental animals.

Regardless of what the individual health problems may be, there are certain principles upon which all elderly persons should choose their foods. During the later years activity decreases to such an extent that if large amounts of food are eaten, undesirable weight may be gained. The food intake,

therefore, must be kept small. If sweets, white-flour products, refined foods, tea, and coffce are used, foods needed to build health are quickly crowded out. Make it a rule to avoid all foods that cannot build health. Since the food intake must be small, no food whatsoever should be eaten which does not contribute some valuable constituent such as minerals, vitamins, or proteins. Small, frequent meals should be eaten, the main meal in the middle of the day. If thorough chewing is impossible, foods should be pureéd or mashed. Raw fruits and vegetables should be put through a Fletcherizer or other juice extractor and taken in the form of liquids or juices. These juices should be substituted for drinking water. If gas is a problem, all liquids should be drunk through a straw to prevent the swallowing of air.

The super foods, yeast, wheat germ, black molasses, and yoghourt, are *musts* for every elderly person. These four foods alone will supply the nutrients most frequently lacking in the diets of elderly persons: the vitamins of the B family, vitamin E, iron, calcium, and first-class proteins. Every person who has added these four foods to his daily diet will tell you that he has experienced an unbelievable improvement in health.

Wherever it is impossible to eat enough natural foods to supply the vitamins and minerals needed, these substances should be obtained in the form of vitamin and mineral concentrates or capsules. For example, if vitamin A is needed, capsules giving 27,500 or 50,000 units each can be purchased. These should be taken directly after meals. Probably all clderly people should take one of these capsules daily, for it is almost impossible for them to eat large enough quantities of coloured fruits and vegetables to supply their vitamin A needs. Tablets of single B vitamins such as vitamin B₁, B₂, B₆, niacin, pantothenic acid, and para-aminobenzoic acid are available and can be used when a definite deficiency of an individual vitamin appears to predominate. There is much evidence that all of the B vitamins work together and all must be supplied before a deficiency of a single B vitamin can be overcome. Therefore, if tablets of B vitamins are used, they should be taken together with and in addition to such foods as yeast, yoghourt, wheat

germ, and black molasses. Vitamin C is available in tablets of 25, 50, and 100 milligrams each. Vitamin D can readily be obtained from capsules of fish-liver oil. Vitamin E can be supplied by concentrates of wheat-germ oil. Calcium and phosphorus can be obtained together as dicalcium phosphate in either tablet or powder form. Iron can be added to the diet in the form of ferrous mucate, or ferrous sulfate. Many other capsules of vitamins and minerals are available. Whatever you use, read the label and know exactly what you are taking. Any of these substances are of value and can be used to advantage as long as they do not lead to carelessness in choosing health-building foods.

A daily regime of a person in later years can be arranged as follows:

Upon

I large glass of fresh citrus juice, drunk through a

ARISING:

straw followed 30 minutes later by,

BREAKFAST:

wheat germ cooked 5 minutes, served with black molasses and milk, or, if you prefer

I egg cooked any way except fried I slice of whole-grain or rye bread hot beverage, preferably herb tea

I tablespoonful brewers' yeast stirred into liquid or in tablet form

I high-potency vitamin A capsule (at least 20,000 units)

I high-potency vitamin D concentrate (1,000 units)

MIDMORNING: I glass of yoghourt or

I cup of hot vegetable broth

Noon:

salad of soft fruits or grated vegetables

grilled liver, or meat loaf

I short-cooked vegetable, preferably green and

chopped well

I potato in jacket (if desired) fresh or stewed fruit with honey hot beverage, preferably herb tea

MID- I large glass of yoghourt drunk through a straw, or

AFTERNOON: I dish of yoghourt mixed with fresh fruit

SUPPER: a one-dish meal such as milk toast made with whole-

grain bread, or cream soup, or

thick vegetable soup with dark bread, or

I dish of yoghourt flavoured with black molasses or

cinnamon

hot beverage, preferably herb tea

BEFORE 1 tablespoonful brewers' yeast stirred into liquid or

RETIRING: in tablet form

I glass of fruit juice, or vegetable juice, or yoghourt

Whenever possible take the main meal at noon. It is far better

for an elderly person to undereat than to overeat.

It is difficult, if one is alone or depressed, to choose foods necessary to build health. It is difficult to make the effort to cat foods for which one has perhaps not cultivated a definite liking. The reward, however, is well worth the effort. It is energy and abounding health, greater than has been formerly thought possible. As your health improves, you will find that your interests and enthusiasm widen and increase. As your energies increase, you will find that you can do those things you have always wanted to do. Set out now, regardless of how many birthdays you have had, to make your later years your happiest years.

HOW TO SLEEP SOUNDLY WITHOUT DRUGS

Few widely held opinions are so erroneous as the belief that sleeping tablets are harmless. Have you ever watched anyone who uses them frequently? He gets up in the morning as groggy as split-pea soup, his mental processes working with the speed of a Mexican burro, his physical energy comparable to that of a half-frozen lizard. Tests made on four hundred persons showed that the average I.Q. was lowered almost four points by a single dose of barbiturates. The effect of sleeping tablets is known to be cumulative; the effect of a single dose

can last as long as eight days. Are your mental powers so keen that you can afford to let their efficiency be decreased?

The story of sleeping tablets is not a pretty one. Judging from the number sold, more than 6,000,000 persons take sleeping tablets each night in America; the sale of tablets has tripled. A death per day results from accidental over-dosage. The drug induces forgetfulness, and the user often cannot remember that the tablets have been taken, or how many. The continued use of sleeping tablets often results in skin diseases, serious liver damage, and evermounting nervous tension. Crimes of the worst varieties have been committed by persons under the influence of barbiturates. In Connecticut before the state passed laws forbidding the sale except on prescription, the use of sleeping tablets caused one person per week to be committed to a state hospital for the insane. To the one person committed per week, twenty-six others had to seek hospital treatment.

Sleeping tablets are not habit forming? There is more than one way to form a habit. The worst effect of sleeping tablets on the casual user is that they cause nervous tension, whereas relaxation is necessary to sound natural sleep. The tension resulting from a sleeping tablet taken one night causes the user to experience more difficulty in getting to sleep the following night. After perhaps a half-hour of turning and tossing, he takes another tablet. As the tension mounts with continued use, natural sleep becomes progressively more impossible; thus the vicious habit is formed.

The worst thing about being unable to get to sleep quickly is worry about the effect of lack of sleep on the next day's work. The more you worry, the more wakeful you become. Yet complete bed rest when you are utterly relaxed is almost as valuable in recharging your batteries as is sleep itself. Any harmful effects of wakefulness are small indeed compared to the effects of sleeping tablets on the following day's work.

The tragedy of the widespread use of barbiturates is that a person whose diet is right sleeps like the proverbial kitten. His problem is not how to get to sleep quickly but how to stay awake long enough to read his favourite editorials. Many foods

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contribute to the relaxation of muscular and nerve tissue necessary to sound sleep. The three most important, however, appear to be calcium, vitamin D, and vitamin B_6 , one of the members of that illustrious vitamin B family.

The less well-known nutrient, vitamin B₆, appears to have a tremendously sedative effect upon the nerves. It has even been used successfully in treating some cases of St. Vitus dance, and paralysis agitans, or palsy. That a vitamin could bring about relaxation where nervous and muscular tension is so great as in these serious diseases indicates that its value to your nervous system is great. Scientists who have studied this vitamin believe that our entire population suffers from mild vitamin B. deficiency; that the jitters explained as being due to 'the fast pace of living' are in reality caused by lack of vitamin B_a. Yet this vitamin is not widespread in commonly used foods. It is removed during the refining of grains and is not added to 'enriched'-meaning robbed-flour. To obtain adequate amounts of vitamin B₆ you must eat such foods as wheat germ, brewers' yeast, blackstrap molasses, liver-not occasionally but often. The person who suffers from insomnia should eat some food rich in vitamin B₀ before retiring.

The widespread lack of calcium contributes much to our sleeplessness. To obtain sufficient calcium to allow maximum relaxation, every person, regardless of age, should get 10 grains of calcium daily. Cheese should be eaten one or more times each day. Milk should be used, whole or skim milk, buttermilk, or yoghourt, the Bulgarian cultured milk; the choice should depend upon your weight and personal preference. Since calcium dissolves in acid, 'soured milks' like buttermilk and yoghourt, containing lactic acid, supply calcium in a form most quickly and completely absorbed into the blood. Certain milk drinks have long been advertised as being conducive to sound sleep, and persons are urged to drink them before retiring; such advertising is allowed because the calcium in the milk causes the nerves to relax, and sound sleep follows.

It is extremely difficult for a person who dislikes dairy products to obtain sufficient calcium. The mineral is abundant in few foods; in many foods, notably green leafy vegetables, the

calcium is in insoluble form which cannot pass into the blood. A single tablespoonful of blackstrap molasses supplies as much calcium as does a glass of milk. Stews, meat soups, and all braised meats containing bone should be prepared with a little lemon, tomato juice, or cooking wine in order that the acid can dissolve calcium from the bone into the gravy or soup. Certain primitive races, such as the Eskimos, obtain their entire calcium supply by eating bones; if you eat the small bones of fried or broiled chicken, and similar meats, you obtain additional nourishment.

Persons who habitually drink lemon juice before breakfast can easily augment their calcium intake; squeeze the juice in the evening and let a washed egg soak in it overnight. Although the appearance of the egg will remain unchanged, the juice will be rich in calcium in the morning.

Vitamin D must be obtained before the body can efficiently absorb and utilize calcium. With the exception of vitamin-D milk, certain fish, and caviare it is almost correct to say that vitamin D is not found in foods. Sunshine is valuable in forming vitamin D only from May to September. The minimum intake of vitamin D comparable with health has been estimated to be 800 units daily; twice that amount has been shown to be more ideal. If it is impossible for you to have a half hour's sunbath daily, obtain vitamin D by taking irradiated yeast tablets throughout the year.

The person who is addicted to using sleeping tablets and who wishes to discontinue them should take calcium tablets containing vitamin D. Any form of calcium can be used: calcium lactate, calcium gluconate, calcium chloride, dicalcium phosphate, or finely ground bone meal. Nutritionists often recommend that 2 or 4 calcium tablets be taken between each meal and before retiring; that the tablets be kept by the bedside and more taken during the night if one is wakeful. I recall a businessman who had used sleeping tablets so long that he felt it was impossible to get to sleep without them. When he substituted calcium instead, he fell asleep so quickly, slept so soundly, and awoke feeling so alert and rested that he carried calcium tablets with him at all times, calling them his 'lullaby pills.'

It should be emphatically stressed that calcium must never be considered a substitute for milk and cheese. The person whose health is so below par that he suffers from insomnia needs the protein, the vitamins and minerals dairy products supply; deficiencies do not occur singly. As the diet is improved to supply adequate calcium, the calcium tablets can be discontinued; any remaining tablets should be kept to use on occasions when excitement or worry might induce wakefulness.

The person who wishes to enjoy restful sleep might choose his food as follows:

Breakfast: fruit or juice; egg or whole-grain cereal containing wheat germ; whole-wheat toast; milk or milk drink; 4 to 6 calcium tablets with vitamin D added

MIDMORNING: a glass of whole or skim milk, buttermilk or yoghourt; or a dish of yoghourt eaten with blackstrap molasses or cinnamon

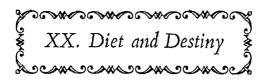
Luncheon: fruit or vegetable salad with cheese; milk, buttermilk, or yoghourt; junket, custard, or pudding

MID- a heaping tablespoonful of celery-flavoured brewers'
AFTERNOON: yeast stirred into tomato juice

DINNER: fish or fruit cocktail if desired; meat or meat substitute; r or 2 cooked vegetables; salad; milk, buttermilk, or yoghourt; fresh fruit, cheese, and whole-wheat biscuits

BEFORE cheese and whole-wheat biscuits or small dish of yoghourt or 4 more calcium tablets with vitamin D

Adequate amounts of calcium and vitamins D and B_0 foods promote health in many more ways than merely by inducing sound sleep. Just as sleep promotes health, so does health promote sound sleep.



FORECASTING THE FUTURE OF NUTRITION

Brillat-Savarin in his Physiology of Taste says: 'The destiny of nations depends on what and how they eat.' Who, indeed, can deny that a nation may become lethargic due to a prolonged diet of excessively refined foods as much as to the ease and softness which come with national senescence? Who can estimate the importance in history of the potato famine in Ireland or the inability of Germany to cut off the food supply of the Allies? The search for food changed trade routes and encouraged discovery, the need for food has been the stock excuse for imperialism, and when food was scarce, a stronger race wiped a weaker one off the face of the earth.

The activities of any nation, its mental health, its soundness of judgment, its ability to play a leading role in world affairs can be either great or small depending upon the nutrition of its people. Nutrition and food play a role far more important in the affairs of mankind than have heretofore been recognized.

In 1937, at the International Physiological Conference held in Moscow, Dr. Agnes Fay Morgan of the University of California read a paper which proved to be prophetic. In this paper she analysed the diets of various nations and pointed out which nations could be expected to be strong and which were becoming weak. The diet of the French people, she pointed out, was becoming so inadequate that only weakness could be expected: white bread, made with wild yeast, devoid both of the vitamins robbed during the refining and of vitamins usually added in bakers' yeast; wine in which the vitamins of the natural grape were lost during the process of fermentation. On the other hand, the Russians were eating black bread made of unrefined grains and molasses; they were extracting vitamin C from

young pine needles and adding it to staple foods; research in their many universities in the value of nutrition was immediately applied to the health of the people. Because of these strides, their nation could be expected to be strong in an emergency. As the world knows, when their strength was

tested France proved to be weak and Russia strong.

While working in London and writing a food column in the Daily Mail I learned at first hand from my students and readers that the diet of the people in England had progressively degenerated by the use of cakes, refined breads, pastries, tea biscuits, tea, marmalade, and too few vegetables, those overcooked. Prior to the war the health of the English people was below par; they were not united and determined in action. In gathering their army, an appalling number of men were found to be physically unfit. Immediately on the outset of war a nationwide nutrition programme was put into effect, proper preparation of foods was taught, and the refining of grains was prohibited. Vitamin C was extracted from rose apples, or rose hips; fish-liver oils and raw carrots were recommended to maintain normal eyesight during blackouts; foods were purchased for their nutritive value; all available land was put under cultivation to raise foods high in vitamins and minerals. Such strides were made in nutrition that, despite food shortages, health was maintained at a level in many cases higher than that during the years of plenty. The nation previously weak became strong. The improvement in nutrition played a tremendous role.

Let us see how strong physically we are in America. The virility and strength of any people is shown by their length of life. You may be surprised to know that our span of life is decreasing, although we have heard a great deal about its increasing. It is true that a larger proportion of people live to be many years older than formerly. However, the census of 1880, taken when our population was fifty millions, showed that there were more than 5,000 people living who were a hundred years old. Considering the increase in population, the census of 1940 would have had to reveal 13,000 people who had reached the century mark to maintain that life span. Actually, only about a third that number of centenarians were living in

1940. Our life span, or the actual length of life, far from increasing, is rapidly decreasing.

An analysis was made by the United States Department of Agriculture of the diets consumed by 10,000 representative families in all parts of the country. The findings indicate that only 27 per cent of our people were living on what would be considered, by using low standards, a fair diet. The other 73 per cent were consuming diets deficient in not one but many nutrients. Such diets make for physical, mental, and emotional instability, allow susceptibility to infection, and lead to the early onset of degenerative diseases.

Statistics tell us that our annual sickness rate is 850 out of every 1,000 people. Yet 90 per cent of all illness is now thought to be preventable. Only 150 people out of every 1,000 are healthy enough to get through a year without actual illness! Tooth decay is now recognized as a manifestation of an inadequate diet, yet 96 per cent of all Americans suffer from this abnormality.

The truth of the matter is that we in the United States do not have a health record to be proud of. Our Surgeon General Thomas Parran only lately tossed a bombshell into the laps of those who contend that we are the healthiest and best-fed nation in the world when he pointed out that New Zealand and the Scandinavian countries have better-fed populations. We have strength, certainly, but it is small indeed compared to the strength we could have. In the future, our country will become a leader among nations or she will become weak and disintegrated, depending on the foods chosen and the methods by which they are prepared. If the tremendous consumption of foods that cannot build health, such as refined sugar, white flour, soft drinks, and coffee, continues, we will become consistently weaker, and some day will be found wanting. On the other hand, if nutritional education becomes nation-wide and if we return to vital, natural foods, we will become ever stronger, and the natural leaders of global food control. The choice is up to you, each separate individual which makes up the backbone of our country.

There is hope. Progress is undeniably being made. In the last

generation the study of nutrition has expanded by leaps and bounds. Trained nutritionists work in industrial plants. National magazines and newspapers have food editors. Restaurants and even drug stores now serve fresh things and cater to health trends. Whole-grain breads can usually be had for the asking. Chain grocery stores carry a full supply of fresh fruit

and vegetables.

Food science is no longer regarded as a stepchild of science. The masses have become food conscious. Statistics indicate that Americans are becoming heavier and taller. Infants now receive fish-liver oil and fruit and vegetable juices as a matter of routine. Food science has won acceptance. The most severe form of rickets has largely been eliminated. Pellagra, gingivitis, goitre, and dozens of other abnormalities have been found to be correctable with sound nutrition. We no longer tolerate the excuse that what was good enough for grandfather is good enough for us. We realize now that, despite all his diet errors, grandfather had to depend on natural foods. We are beginning to understand that the simplest ingredients used in modern cooking may be dead and useless so far as real nourishment is concerned. We must retain the living elements.

People have been educated to enjoy such vegetables as broccoli and artichokes. Turnip tops, dandelion greens, and potatoes in jackets appear as frequently upon the tables of the rich as upon those of the poor. Women's clubs and welfare organizations constantly work to spread the value of the balanced diet for all among low income groups and the well-to-do.

People realize that food must be correctly and attractively prepared. The future will show many advances in food preparation. I recently saw a demonstration of cooking with short wave, long used in diathermy. A utensil holding a large roast was plugged into the wall, and a few minutes later the meat was perfectly cooked. Bread likewise was baked in a few minutes, and vegetables, without water, in a few seconds. Such a method allows no time for vitamins to be destroyed and no means by which minerals, sugars, and flavours can be lost. Cooking itself will be subject to more intensive investigation. That day cannot come too soon when no home-maker will commit the crime

of overcooking foods; when all vegetables everywhere will be short-cooked; when waters from cooked vegetables brimming with vitamins and minerals will no longer be tossed down the drain. There is still much to be learned of the effect of cooking upon food.

Sanitation has checked such scourges as cholera and typhoid fever. The establishment and carrying on of proper nutritional procedures, however, can prevent the inroads of arthritis, tuberculosis, and heart and kidney diseases.

It is difficult to try to imagine what effect ideal nutrition could have upon the world. Nowadays industry loses billions of dollars yearly through the illness of workers. How would industry be affected if no worker were ill for one year, for two years? How would such a Utopian condition affect the workers themselves or the world's economic balance? Would it be possible to switch criminals from evil to virtue through a supervised diet? Certainly hobnailed livers, fat-ridden kidneys, and brittle arteries can be prevented through advances not only in food selection but in food preparation. What added capacity for effort or leisure would be developed if man lived on sixteen cylinder instead of four cylinder energy? We do not know, but we do know this: there is much that right diet can correct.

Did you see the statue of the Average American at the prime of life, exhibited at the Chicago World's Fair? It was made in accordance with the latest health statistics, yet it shows a man partly bald, stoop shouldered, pot bellied, and with muscles as flabby as jelly. Food science can help you as mothers and fathers to prevent both yourselves and your children from deteriorating into such a caricature. You and your children owe it to yourselves and to the future of the race to look and be at your prime when the prime of life reaches you. Are you to be vigorous, strong, buoyantly erect, and alive at fifty? Or are you content to let that caricature be your monument?

Nutrition's big job for the future is to continue research in the field of chronic diseases; to find ways of increasing health in school children, industrial workers, and among the underprivileged. Nutrition must be taught in the schools, and be given as prominent a place as reading, writing, and arithmetic.

XXI. The New Health Cookery

MODERN COOKING IS FUN

There should be pleasure in eating. Therefore every recipe which follows has been created to add to your pleasure and enjoyment of food. The aim of the new way of cooking is to show you how to prepare foods so appetizingly that you will completely forget you are eating foods that are 'good for you.'

Foodless foods such as white flour, white sugar, vinegar, lard, white salt, and irritating spices have no place in the New Health Cookery. In their place are used the natural whole grains and soya flours, brown sugar and molasses, lemon juice, vegetable oils, and butter. For more flavour and savour, vegetable salt and non-irritating herbs are used.

Most cooks utterly fail in the preparation of vegetables, broths, salads, and tasty meat substitutes. It is the purpose of this chapter to show how to prepare these foods in an easy and healthful manner.

SHORT-COOKING VEGETABLES

Most people enjoy the underdone taste of the vegetables served in Chinese restaurants. These vegetables not only taste better but look better, and what is most important, the 'life' has not been cooked out of them. Just a few minutes are needed for short-cooking vegetables. You should have a convenient clock, as timing determines perfection. Short-cooking is a matter of minutes only. No more long soaking and boiling.

You should have some heavy cooking utensils. Stainless steel is excellent, and pottery is good. A simple shredder with a fine and a coarse blade will save much time in shredding carrots, beets,

cauliflower, etc.

BEETS, CARROTS, AND TURNIPS

Thoroughly wash but do not peel the young vegetables. Shred on a medium shredder blade. Use a heavy and heated cooking utensil; cover the bottom with 2 or 3 tablespoonfuls of water or, still better, Hauser Broth. The fuller the utensil the better. The steam created by the liquid must be kept in; so be sure to cover the utensil tightly. Shake occasionally to prevent sticking. Shredded beets, carrots, or turnips cooked in this manner take about 5 to 10 minutes depending upon the quantity. As soon as the shreds are thoroughly wilted, add some vegetable salt, and a lump of butter or a bit of vegetable oil.

While on the Seven Day Elimination Diet, vegetables should be cooked in broth only. No butter or oil is allowed during that week.

CAULIFLOWER

Shred entire cauliflower on medium-sized shredder blade. Place shreds in heavy, hot utensil in which there is some melted butter or vegetable oil. Cover utensil tightly and shake occasionally to prevent sticking. When thoroughly wilted (usually 4 to 10 minutes), add a bit of vegetable salt, and serve immediately.

CABBAGE

Shred white or red cabbage on the coarse shredder blade; use heavy, heated utensil and cover bottom with a few tablespoonfuls of water or Hauser Broth. Fill entire utensil with the shredded cabbage and cover tightly. Shake occasionally to prevent sticking. When thoroughly wilted (usually 3 to 6 minutes), add vegetable salt and some butter or vegetable oil. For the sake of variety, a bit of cream may be used.

SPINACH

Remove all dead and crushed leaves before washing. Shred large leaves with scissors. Place these shredded leaves in a hot cooking utensil. No water is needed. When leaves are thoroughly wilted (usually 3 minutes), add a bit of vegetable salt and butter or vegetable oil. Serve piping hot.

STRING BEANS

Young tender green or yellow beans are shredded lengthwise and placed in a heavy, hot cooking utensil. Cover the bottom with hot broth and keep the utensil tightly covered. Cook for about 8 minutes. When tender, add a bit of vegetable salt and some butter or vegetable oil.

PEAS

Shred young peas as usual. Put pea pods through juice extractor and extract the vitamin-rich juice. Simmer the shelled peas in this vegetable juice for about 5 minutes. Season with vegetable salt and butter.

ZUCCHINI AND EGG-PLANT

Select the small, tender vegetables. Wash thoroughly but do not peel. Shred on a medium-sized shredder blade. Cook in a heavy and heated utensil, covered tightly. When tender, add a bit of vegetable salt and butter.

Practically all vegetables can be short-cooked. Please remember to select young vegetables and short-cook over medium flame in the shortest time possible. All vegetables are cooked in their own juices. Add only enough water or broth to create steam and to prevent sticking.

DELICIOUS BROTHS

Broths have a definite value in the modern menu. When prepared in the modern manner, they are delicious to the taste. A cup of hot broth gives an immediate sense of nourishment and encourages slower eating and therefore better digestion. You can make any variety of broths after you master a few basic principles.

My famous potassium broth now called Hauser Broth is more widely used than any other single recipe. Only fresh young vegetables go into the making of this clear delicious alkaline broth. The recipe is as follows:

HAUSER BROTH

I cup finely shredded celery
I cup finely shredded carrots
cup shredded spinach
I tablespoonful minced parsley

I teaspoonful vegetable salt I quart cold water Herbs to suit taste

Put shredded vegetables in cold water, place over low flame, and bring to simmering point. Hold at this heat for 15 or 20 minutes, turn off the heat, and add the vegetable salt. Let stand to draw for 10 minutes. Strain.

This gives you the basic soup stock from which you can build endless varieties, limited only by your lack of imagination or local market. One time add an extra vegetable; a little onion or tomato, or both. Green or red sweet peppers give a distinctive and pleasing flavour. A bit of garlic gives it a 'lift' that nothing else achieves. You can entirely change the character of your soup with a pinch of old-fashioned garden herbs such as basil, savory, thyme, or marjoram. You need never have a flat-tasting broth if you keep on hand a fresh supply of these simple herbs, a small jar of garlic powder, and a shaker of vegetable salt.

VEGETABLE SOUP

If you have on hand clear vegetable broth, either from water saved when cooking vegetables or Hauser Broth, you may add infinite variety by heating just to the simmering point, adding a few finely shredded vegetables, and holding at this heat 5 minutes. The vegetables will be crisp and colourful instead of dull and 'mushy' as most vegetable soups are.

BURNT ONION SOUP

A delicious soup stock for either clear bouillon, creamed, or

vegetable soups can be made as follows:

Shred onions finely, cutting crosswise with a very sharp knife. Put in pan with only enough water to start steam; put over very low fire and allow to cook until water is evaporated and onions browned down to the pan. Now add water and cook about 2 minutes. The liquid will be golden brown. Season with vegetable salt and serve as you choose, with the onions either remaining or strained out.

NEW PEA SOUP

Grind I cup of shelled new peas through the fine knife of food chopper. Add I pint of Hauser Broth, bring slowly to simmering point for 5 minutes. Season. Remove from fire, add $\frac{1}{2}$ cup sweet cream, and serve without reheating.

POTATO SOUP

Thoroughly scrub potato. Then peel about $\frac{1}{2}$ inch thick and dice the peclings.

I cup diced potato peelings
I cup water
I cup finely shredded onion
2 tablespoonful wegetable salt
2 tablespoonful butter
2 tablespoonfuls minced parsley
3 cup milk tops

Simmer potato peelings in water for about 15 minutes. In another pan, melt butter and cook onions until golden brown. When potato dices are tender, season with onion, blend for 1 minute over fire, turn off the heat, add sweet cream and minced parsley.

CREAM OF RAW VEGETABLE SOUP

½ cup fresh celery, spinach, or beet½ teaspoonful vegetable saltjuice½ teaspoonful finely shredded onion1½ cups Hauser Broth½ teaspoonful butter¼ cup milk topsA pinch of brown sugar, if desired

Put all ingredients into saucepan. Heat thoroughly, but do not allow to boil. Season to taste. Serve with parsley or chive.

CREAM OF SOYA SOUP

Purée 2 cups of cooked soya beans. To this add 1 cup of milk and 1 cup of Hauser Broth with vegetable salt to taste.

SALADS

Vegetables and fruits are protective foods. They protect us from overeating, overacidity, and overweight. The best way to make sure that every member of your family gets sufficient health protection is to *start* your meal with a salad. Make your salads as appetizing and attractive as possible. Many people 'eat with their eyes.'

FINGER SALAD

To satisfy the craving for starches at lunch or dinner, eat what I have named a Finger Salad, containing carrot sticks, celery sticks, cauliflower buds (cauliflower broken into small bits), radishes, turnip or kohlrabi slices, young onions, watercress, and occasionally

a few green olives. This Finger Salad when served attractively satisfies every member of the family, and helps to give you added food values during your Seven Day Elimination Diet or while on a reducing diet.

CELERY-NUT SALAD

I large head lettuce

4 stalks celery

I green sweet pepper

2 large tomatoes

1/2 cup grated nuts

Watercress

4 tablespoonfuls French dressing

Marinate chopped celery and green pepper with dressing and tomato. Place on bed of lettuce. Sprinkle grated nuts on top. Garnish with watercress.

HOLLYWOOD SALAD

2 cups cabbage shredded fine 10 large ripe olives, cut

2 cups tart apples shredded fine 4 tablespoonfuls French dressing

Mix with French dressing and place in a nest of crisp lettuce leaves. Garnish with radishes and parsley.

ONE-TWO-THREE SALAD

Shred equal parts of carrots, apples, and cabbage. To this add pineapple juice enough to moisten, which makes a delicious nonfattening dressing. This combination can be used on the Elimination Diet.

PINEAPPLE AND CABBAGE SALAD

Young cabbage, shredded fine Unsweetened pineapple diced

For the dressing, mix unsweetened pineapple juice with a bit of Philadelphia cream and marinate well.

SALAD BOWL

Cut up watercress, tender leaves of lettuce, young radishes, green onions chopped fine, I large tomato sliced, 2 cucumbers, 2 carrots shredded fine. Put all in a salad bowl and mix with your favourite dressing.

TRY THESE NEW SALAD COMBINATIONS:

tomatoes, green peppers, parsley, and onions cucumber, artichokes, radishes, and watercress apples, cabbage, celery, and fresh mint carrots, celery root, and watercress shredded red cabbage and red apples shredded young beets, green peas, and onions shredded cos lettuce, grated cauliflower, and radishes shredded carrots, green peppers, parsley, and celery young spinach, cabbage, and watercress shredded fresh or unsweetened pineapple, red cabbage, and parsley thinly sliced Spanish onion, chicory, and spinach green apples, radishes, and young watercress cucumbers, tomatoes, and young green peas chopped endive, sliced beets, and watercress cabbage, carrots, celery, and sweet peppers

FRUIT SALADS MADE IN A JIFFY

a combination of lettuce, celery, bananas, and apple with creamcheese dressing

peaches, bananas, cherries, and lettuce with honey dressing is very good

apricots, pears, lettuce, and cherries with lemon-oil dressing is unique

apples, bananas, cherries, and lettuce with lemon-oil dressing honeydew melon, orange, raspberries, peaches served on lettuce nests with French dressing is delicious

cantaloupe, pincapple, raspberries, and lettuce served with limejuice dressing is not only attractive, but cool and refreshing

SALADS TASTE BETTER WITH SIMPLE DRESSING

Try to put oil over your salad greens and then follow with the rest of the ingredients and mix. This is the secret of French and Italian chefs. Dressing, when made correctly, adheres to the salad material. It is a disgrace to a good chef if the dressing is on the plates after the guests have eaten the salad.

LEMON-AND-OIL DRESSING

The simplest and most healthful dressing is made in a jiffy. Lemon juice, olive oil or vegetable oil, vegetable salt to taste, and always a bit of honey. If your family stands for it, just a bit of garlic or other herbs.

DELICIOUS DRESSING

Chop I clove of garlic in a small mixing bowl, add I cup of lemon juice, I cup of vegetable oil, I teaspoonful of vegetable salt, I teaspoonful of paprika, 3 tablespoonfuls of honey. Mix well and allow to stand for I hour. Remove the garlic. Put dressing in a jar and keep in a cool place. Shake well each time before using. Two tablespoonfuls of sour cream may be added to the dressing at time of serving. (The odour of the garlic is not noticeable in this dressing, while the flavour is delicious.)

FRENCH TARRAGON DRESSING

Take a pint bottle with a screw top. Into this pour I cup of vegetable oil, ½ cup lemon juice, 2 tablespoonfuls honey, and ½ teaspoonful vegetable salt. Crush a few tarragon leaves (fresh or dried), drop in the bottle. Screw on the cap and shake thoroughly. Let stand in the refrigerator at least a half day before using. Shake thoroughly before serving.

ROQUEFORT CHEESE DRESSING

Add any amount of grated Roquefort cheese to the French Tarragon Dressing, or to any French dressing.

MAYONNAISE DRESSING

1 egg 2 tablespoonfuls lemon juice

σ

I pint vegetable oil ½ teaspoonful vegetable salt

Slightly beat the egg. Then gradually add the oil, beating all the while. When all of the oil is beaten into the egg, you will have a very stiff mixture. Add salt and fold it in. Now add the lemon juice gradually until desired consistency and tartness.

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YOGHOURT DRESSING

½ cup yoghourt
½ teaspoonful honey
½ teaspoonful honey
 Grated rind of ½ lemon
½ teaspoonful vegetable salt

Beat all ingredients together. Serve with shredded cabbage or with any vegetable combination salad. Vary by including chopped chives, watercress, or parsley. This dressing can be used during the Elimination Diet.

YOGHOURT MAYONNAISE

4 tablespoonfuls mayonnaise 4 tablespoonfuls yoghourt

Mix mayonnaise with yoghourt until the consistency of thick cream is obtained. More yoghourt makes a thinner dressing. Delicious on vegetable combination salads.

THICK FRENCH DRESSING

6 tablespoonfuls salad oil \$\frac{3}{4}\$ teaspoonful grated horse-radish \$\frac{1}{2}\$ tablespoonfuls lemon juice \$\frac{1}{2}\$ teaspoonful paprika \$\frac{1}{2}\$ teaspoonful vegetable salt \$\frac{1}{2}\$ teaspoonful celery salt

Put all ingredients into a bottle and shake thoroughly. Chill to thicken. Serve with egg, or green leafy salad.

CREAM-CHEESE MAYONNAISE

cake cream cheese
 tablespoonful lemon juice
 teaspoonful vegetable salt
 teaspoonful onion juice
 tablespoonfuls salad oil

Beat cheese with fork until soft. Work in lemon juice and seasonings. Beat in oil gradually. Serve with any vegetable or fruit salad calling for mayonnaise. This dressing is without the oily texture of mayonnaise. The same savoury materials which are used to enhance mayonnaise can be added to this dressing. It can be made stiffer by beating in another tablespoonful of oil.

TASTY AND NON-FATTENING DRESSINGS

Use fresh or canned fruit juices, as orange, pineapple, lemon, or lime. Cover the shredded vegetables with any one of the above

juices, a bit of vegetable salt, and honey. Apples, celery, carrots, or cabbage are delicious when saturated with fruit juices. These fruit-juice dressings can be used during the Elimination Dict.

MEAT SUBSTITUTES

With a little planning and ingenuity any number of tasty protein dishes can be made without even one bit of meat. Try the following combinations:

SAVORY NUT LOAF

⅓ cup finely chopped nut meatsI egg slightly beatenI cup finely chopped celeryI teaspoonful vegetable salt⅓ cup chopped parsley⅓ teaspoonful summer savoryI¼ cups cooked tomatoI cup dry whole-wheat breadcrumbs⅓ cup finely shredded onion2 tablespoonfuls vegetable oil

Combine first six ingredients and mix thoroughly. Add and mix in the remainder. Pack into a well-greased and floured loaf tin. Bake in a moderate oven until firm enough to be turned out. Serve with lemon, parsley butter, or tomato sauce.

MOCK MEAT LOAF

I cup minced onion
I tablespoonful grated raw beet
3 tablespoonfuls minced celery tips,
leaves, and stalks
leaves, and stalks
thyme, or grated nutmeg to suit
taste
through food grinder)
I egg, slightly beaten

🔓 cup cooked tomato pulp (drained) 🔏 shredded wheat biscuit crumbled

fine

Combine ingredients in order given, mixing thoroughly after adding egg. Add shredded wheat biscuit and mix it lightly. Pack into a well-greased and floured loaf tin and bake in a moderate oven until firm enough to be turned out. Serve with a gravy and garnish with sprigs of parsley.

WALNUT LOAF

2 cups walnuts, chopped
2 cups whole-wheat breadcrumbs
4 green pepper, chopped
2 tablespoonfuls soya flour
2 eggs, beaten foamy

I medium onion, chopped
4 green pepper, chopped
1 cup Hauser Broth

Put all ingredients into bowl and mix thoroughly. Place in not too hot an oven and bake for about 40 minutes.

BAKED SOYA BEANS

I cup large dried soya beans 3 cups Hauser Broth 4 tablespoonfuls of vegetable oil 1½ teaspoonfuls vegetable salt (peanut, soya, etc.) 2 tablespoonfuls of molasses

1 medium-sized onion, chopped fine Tuice of & Temon

Pour 3 cups of hot Hauser Broth over washed beans and soak for 24 or 36 hours. Put on to boil in the same broth. Cook slowly, adding more broth as needed, and keep beans covered until they develop a light tan colour. Transfer to covered baking dish and add the oil and molasses. Bake in a slow oven until beans are brown and well done. Stir occasionally during baking and keep beans in liquid until the last hour. Add onion, salt, and lemon juice and bake uncovered for the last half hour to allow the top to brown. (The beans will have a rich colour themselves if stirred often enough and not baked in too much liquid.)

DELICIOUS POULTRY DRESSING

Shred 2 cups of carrots, 2 apples, I cup of celery, I large onion. Grind & cup raisins, I cup nuts, 2 green peppers. Season with vegetable salt, garlic, and spice. Combine with 2 well-beaten eggs. Very delicious.

SOYA-NUT CROQUETTES

I cup baked soya beaus, mashed I cup cooked brown rice I egg, separated 2 tablespoonfuls chopped nut meats or green olives

Whole-wheat cracker crumbs I tablespoonful vegetable salt Soya flour

Combine and mix all ingredients but egg white, using enough flour to make a mixture that can be moulded. Divide into heaping serving-spoonfuls and mould into desired shape. Roll in soya flour. Dip in egg white thoroughly blended with I tablespoonful water. Roll in whole-wheat cracker crumbs. Place on well-oiled baking pan. Bake in hot oven until browned, turning once, if necessary, to brown on both sides. Serve with a garnish of parsley (if made with olives) or with tart jelly (if made with nuts).

SOYA-BEAN LOAF

2 cups of soya beans
I tablespoonful chopped parsley
I cup finely chopped celery
I cup finely chopped onions
I tablespoonful Hauser Broth
I cup finely chopped onions

Mash the beans and mix with vegetables, crumbs, and Hauser Broth. Put in medium hot oven and bake for about 30 minutes.

WHEAT-GERM PATTIES

If you have any cooked soya beans left they can be made into wholesome and delicious patties; simply mash them and add some fresh parsley and a little onion, as much wheat germ as you like. Then to bind the contents add I or 2 eggs. Form into patties and brown on both sides.

SOYA-AND-PEANUT-BUTTER PATTIES

1 cup soya beans
1 tablespoonful chopped parsley
2 tablespoonfuls peanut butter
2 tablespoonfuls peanut butter
3 tablespoonfuls peanut butter
4 tablespoonfuls whole-wheat bread-crumbs

Mix ingredients in bowl and shape into small pattics; roll in breadcrumbs and place on buttered pan in moderately hot oven.

CELERY LOAF

1 teaspoonful vegetable salt
2 small onion
3 cup nut meats
3 cup tomato soup or juice
1 teaspoonful melted butter
3 cup dry whole-wheat breadcrumbs
or crumbled shredded wheat
t egg, beaten until thick
biscuit
tablespoonful grated cheese

Put celery, onion, and nut meats through medium knife of food grinder. Add all remaining ingredients but the egg and mix thoroughly. Add egg and mix in lightly. Pack into a loaf tin prepared with 2 teaspoonfuls vegetable oil and a thick layer of dry whole-wheat crumbs (2 or 3 tablespoonfuls) evenly sprinkled on the bottom. Bake in a moderate oven until firm enough to be turned out. Loosen sides all around with a knife and invert on a platter. Garnish with ripe tomato wedges and a generous sprinkling of chopped parsley.

GOLDEN CARROT LOAF

 pound raw carrot, grated (equals ³/₄ cup, packed)

 packed)
 preadcrumbs

 1 onion (small) minced

 tablespoonfuls milk tops
 tegg, slightly beaten
 teaspoonfuls vegetable salt
 teaspoonfuls butter
 teaspoonfuls butter
 thopped nuts
 Wholewheat breadcrumbs

Mix thoroughly all ingredients but the last two. Grease a baking dish well and cover the bottom thickly with dry whole-wheat crumbs. Pack in the mixture. Dot the top with butter, cover, and bake in moderate oven about 35 minutes. For the last 5 minutes uncover and dry out a little. Invert on a platter and serve with greenpea sauce or your own favourite.

STUFFED PEPPERS

6 medium-sized sweet green ½ cup nut meats (chopped walnuts peppers or pecans are good)

1½ tablespoonfuls melted butter ⅓ cup dry rye breadcrumbs

¼ cup chopped celery I cup milk

I onion, shredded fine ½ teaspoonful vegetable salt

‡ cup green pepper, chopped fine (including removed tops and seeds)

Wash peppers. Prepare by cutting off stem end and hollowing out veins. Sprinkle inside with vegetable salt. Combine all ingredients and stir over heat until well blended. Fill prepared peppers with hot mixture and fit snugly into baking dish with an inch of hot water. Bake covered in a moderate oven until peppers are done. For the last 5 or 10 minutes of cooking, sprinkle peppers with buttered whole-wheat crumbs and return uncovered to let crumbs brown. Serve in dish and garnish with sprigs of parsley.

STARCH FOODS IN THE MODERN MANNER POTATOES, RICE, BREAD, COOKIES, DESSERTS

VITALITY POTATOES

Steam potatoes with jackets on; be sure that all water is absorbed, remove peeling; add a large handful of finely chopped greens—

parsley, green onions, or chives. Add a lump of butter, some salt, and milk and beat until fluffy. Adding shredded vegetables helps to fortify the potatoes with additional vitamins and makes them delicious.

BAKED POTATOES

Bake potatoes and cut in half. Remove contents from shell; add a large handful of your favourite finely chopped garden greens, such as parsley, green onions, chives, or mint. Add a lump of butter, vegetable salt, and milk. Mash and beat until very fluffy and replace in shell. Brown in oven or under broiler.

IRISH POTATO CRISPS

Scrub potatoes thoroughly. Peel lengthwise $\frac{1}{2}$ inch wide and $\frac{1}{4}$ inch thick. Place on oiled pan and bake in quick oven. Brush with melted butter and serve instead of crackers or bread.

RICE NUTBURGERS

2 cups cooked rice } cup chopped nuts 1 egg, slightly beaten

Combine all ingredients. Form into patties, using a heaping serving-spoonful for each; or drop from spoon and cook on a hot, well-oiled griddle as you would flapjacks. Peanut oil adds to the flavour.

BASIC BROWN RICE RECIPE

I cup natural brown rice 5 cups boiling water I teaspoonful vegetable salt

Look over rice for husks and foreign particles. Place in wire strainer and rinse under cold water faucet to remove dust. Bring water to boiling point; add rice and boil briskly for 5 minutes. Turn down the flame to low heat and simmer for 20 minutes. Turn off the heat. Add seasoning and let stand in double boiler, where it will keep hot until the remaining water is absorbed (about an hour). The grains will be whole and fluffy.

WHOLE-WHEAT BISCUITS

2 cups whole-wheat flour

5 teaspoonfuls baking powder 1 teaspoonful vegetable salt I cup milk

1/2 cup vegetable shortening

Sift dry ingredients several times; work in shortening with finger tips. Cut in milk with knife. Make into small biscuits. Bake in quick oven, 20 minutes.

DELICIOUS SOYA MUFFINS

11 cups sifted soya flour

2 teaspoonfuls baking powder

1½ teaspoonfuls vegetable salt

2 egg yolks, beaten very light 3 tablespoonfuls brown sugar

x tablespoonful grated orange rind

I cup milk

I tablespoonful melted butter

1 cup raisins, floured

Lup walnut meats, floured

2 egg whites, beaten stiff

Sift together dry ingredients. Beat sugar into egg yolks, add orange rind, milk, and butter, and mix. Pour onto dry ingredients, and mix. Add raisins, and nut meats that have been broken by rolling with a rolling pin. Mix. Fold in egg whites. Pour into a greased muffin tin, and bake in a slow oven.

WHOLE-WHEAT MUFFINS

I eaa

A piece of butter the size of an egg

(melted)

21 tablespoonfuls brown sugar

I cup sweet milk

1 teaspoonful vegetable salt

11 cups whole-wheat flour

2 teaspoonfuls baking powder

Mix sugar and butter. Add salt and beaten egg; then the cup of milk; next flour and baking powder, sifted together. Beat batter to lighten. Bake in well-oiled deep muffin pan in quick oven for 20 minutes.

SOYA-CREAM WAFFLES

2 cups soya flour, sifted 3 times

2 teaspoonfuls baking powder } teaspoonful vegetable salt

4 tablespoonfuls shortening

sure batter is thin.

2 tablespoonfuls brown sugar

3 eggs 11 cups milk

Beat ingredients into nice smooth batter. For crisp waffles make

DELICIOUS SOYA CAKE

2 eggs, beaten	1½ teaspoonfuls baking powder
I cup brown sugar	½ teaspoonful vegetable salt
½ cup milk	💈 teaspoonful cinnamon
} cup whole-wheat flour	1 tablespoonful cocoa
11/3 cups soya flour	🧎 cup vegetable oil

Add sugar gradually to eggs while beating, and beat until very light. Sift dry ingredients together, and add alternately with milk. Stir in oil. Pour into greased shallow tin and bake in a moderate oven.

SOYA COOKIES

¼ cup butter	2 teaspoonfuls baking powder
🖁 cup brown sugar	3 tablespoonfuls very finely chopped
1 egg, separated	nuts
½ cup honey	2 tablespoonfuls brown sugar
Grated rind of ½ lemon	🖠 teaspoonful cinnamon
1½ cups soya flour	

Cream butter and sugar together until fluffy. Beat in well egg yolk and half of white. Add honey and rind and beat until mixed thoroughly. Stir in flour sifted with baking powder. Knead with as little flour as possible to blend thoroughly. Roll out thin. Spread surface with half of egg white slightly beaten, and sprinkle evenly with nuts, sugar, and cinnamon, well mixed together. Cut into about 40 rectangular pieces, and transfer to a floured baking sheet. Bake about 12 minutes in a moderate oven until dough is cooked. Transfer to flat brown paper. When cool, store in covered box.

HONEYED FRUIT

Place any fresh fruit, such as berries, small peaches, or pears, in a pan and cover with cool water. Sweeten to taste with honey. Bring to boil. This takes only a few minutes and does not destroy the colour or flavour of the fruit.

GRILLED GRAPEFRUIT

Cut the grapefruit in half, using firm fruit. Cut the sections but not the centres out. Add I teaspoonful of honey or molasses and teaspoonful butter. Place in slow oven, bake for 30 minutes with a little water in pan until done.

HONEYED DRIED FRUIT

After washing prunes, apricots, or raisins, cover with warm water; add honey to taste. Do not cook, but let soak overnight. The fruit will look and taste like fresh fruit.

JIFFY ICE CREAM

I box ripe strawberries (or rasp- Juice of ½ lemon
berries) ½ cup whipped cream
½ cup water I pinch vegetable salt
2 tablespoonfuls honey

Mash berries thoroughly. Combine water, honey, lemon juice, and salt, and mix thoroughly. Add this to the mashed berries and, at last, fold in the whipped cream. Put in refrigerator and freeze.

FRUIT ICE

Sweeten with honey the desired amount of fruit mashed to a pulp. Mix with the juice of 2 lemons. When freezing point is reached, add 2 well-beaten egg whites and continue to freeze.

WHOLE-WHEAT PIE-CRUST

1 cup vegetable shortening or butter 2 cups whole-wheat pastry flour 1 teaspoonful vegetable salt

Combine. Pour boiling water over the shortening. Blend. Add gradually the whole-wheat flour and vegetable salt. Put on ice about 30 minutes and roll on a pastry sheet.

DATE PUDDING

teaspoonful cream of tartar
teaspoonful cream of tartar
cup stoned dates
teaspoonful vanilla
teaspoonful vanilla
choice

2 egg whites
Pinch of vegetable salt
tablespoonfuls chopped nuts of
choice

Mix cream of tartar with sugar in bowl. Chop dates and mix thoroughly with sugar. Beat in vanilla and egg yolk. Beat egg whites and salt until stiff. Fold into mixture. Transfer to greased baking dish. Sprinkle with chopped nuts. Bake in moderate oven until dry in centre. Serve hot or cold with cream or custard sauce.

CARAMEL SAUCE

I tablespoonful butter 1 cup brown sugar 1/2 cup boiling water

Cook butter and sugar in frying-pan over moderate heat until melted. Reduce heat and cook, stirring until mixture boils giving off smoky fumes. Stir in boiling water by the spoonful. If any lumps form, return to heat and stir until melted. Use hot or cold. Dilute further if desired.

WHOLE-SOYA-FLOUR PIE-CRUST

To I cup of butter or vegetable shortening, add ½ cup of boiling water. Blend well with a fork. Add gradually ½ cup whole-wheat flour and 1½ cups soya flour, I teaspoonful vegetable salt, ½ teaspoonful baking powder. Chill thoroughly. As this is hard to handle, roll on wax paper or a pastry sheet and invert it on the pie plate. Then remove the wax paper.

CHEESE PIE-CRUST

1/4 pound butter

I package cream cheese

2 cups whole-wheat flour

\frac{1}{8} cup water

Cream butter and cheese, add flour and water to make a soft dough. Roll out on pastry sheet after chilling for 30 minutes.

SPECIAL ACCESSORY FOODS

BULGARIAN YOGHOURT

Yoghourt is a type of sour milk somewhat like acidophilus milk which is soured with a virile strain of Bulgarian bacteria. The advantages of using yoghourt rather than sweet milk, ordinary sour milk, or buttermilk are numerous. The bacteria in buttermilk and ordinary sour milks cannot live at body temperature; nor can they survive the hydrochloric acid of the stomach. Hence they cannot live and multiply in the digestive tract. The principal reason for drinking yoghourt is that its bacteria can live and multiply in the intestinal tract.

The work of several scientists, especially Dr. Gustav Martin of the Warner Institute of Therapeutic Research, shows that the

bacteria in yoghourt actually manufacture or synthesize vitamins of the B family. For example, the bacteria from yoghourt make some of the anti-grey-hair vitamins. They also produce the vitamin which stimulates the growth of hair and supply biotin which is of

tremendous importance to mental health.

Yoghourt has long been the staple food of the Bulgarians. These people are noted for their vigour and longevity. Any kind of milk can be used for making yoghourt—whole milk, skimmed milk, dry milk, or canned milk mixed with water. You can obtain yoghourt from the leading dairies everywhere. Let your milkman bring you a ½ pint bottle of yoghourt three times a week. With it you can make at least 6 quarts of delicious yoghourt; simply add ½ bottle of yoghourt to a quart of milk. The yoghourt bacteria must be kept warm so that they can multiply and sour the entire quart. In cold weather the milk should be kept near a pilot light or the hot-water heater. In warm weather the milk sours at room temperature.

Remember the bacteria live on the sugar of the milk and break it down into lactic acid. This causes the milk to curdle and to become like junket; as soon as this happens, place the bottle in the refrigerator. The coldness stops the further growth of the bacteria and prevents the milk from becoming too sour. If the milk is kept too warm, the curds separate and the beverage becomes less

appetizing.

In addition to being a healthful drink, yoghourt is also delicious when eaten like junket, plain or with fruit, or sweetened with honey

or black molasses or, if you like, a bit of cinnamon.

Yoghourt makes excellent salad dressings, and is especially good on restricted diets, such as the Seven Day Elimination Diet. Simply add to thick yoghourt a bit of lemon juice, some onion, parsley, or any other flavour you like. For the sake of variety you could go completely Bulgarian and add a bit of dill or garlic.

HOW TO MAKE GENUINE YOGHOURT AT HOME

1. Warm up I quart of fresh milk in a saucepan. Remove cream if yoghourt is to be used during the Elimination Diet.

2. When milk comes to a boil, remove from stove and let cool

until it is lukewarm (about 110 degrees Fahrenheit).

Shake the bottle of the yoghourt culture and pour into the lukewarm milk. Stir well.

4. Pour immediately into jars, cups, or bowls, then cover.

5. KEEP WARM (in a warm spot, well covered by a blanket, to prevent loss of heat) until a firm curd has formed.

6. When firm (in about 3-6 hours), place in refrigerator, and the yoghourt is ready for consumption after cooling for about 8 hours.

IMPORTANT. The temperature at which yoghourt is incubated for 3-6 hours is of the greatest importance in the preparation of good yoghourt. By lukewarm, we mean a temperature that feels hot to the first touch, but which can be endured without discomfort.

One quart milk makes about 6 cups. Yoghourt keeps fresh under refrigeration for 4-7 days. Yoghourt should be made fresh about twice each week.

The original yoghourt culture is used only once. For additional preparation of yoghourt, use a part of yoghourt from the previous batch as a new culture (a tablespoonful for each additional quart of milk) and proceed exactly as explained above. After preparing yoghourt from the original culture for about one month, it is necessary to renew the culture by obtaining a fresh original yoghourt culture. Genuine yoghourt culture consists of a combination of three different types of lactic organisms, such as are found in real Bulgarian yoghourt. A small bottle of this culture makes quantities of delicious yoghourt.

SWISS BREAKFAST (COLD)

I tablespoonful fresh wheat germ I unpeeled shredded apple 1 teaspoonful oatmeal Honey to taste

4. tablespoonfuls water Top milk

Chopped nuts, if desired I teaspoonful lemon juice

Soak wheat germ and oatmeal in the water overnight. The next morning add lemon juice, honey, and cream, and mix thoroughly. To this add the apple. A small handful of chopped nuts sprinkled over this combination makes the breakfast more nutritious.

You can make as many different varieties of the Swiss breakfast as there are fruits in your market. Fresh berries, grapes, peaches, or any other of your favourite fruits can be mashed and mixed into the Swiss breakfast in place of the apples.

SWISS BREAKFAST (HOT)

I tablespoonful fresh wheat germ I teaspoonful oatmeal ½ cup water or milk Honeyed fruit

Cook wheat germ and oatmeal in water or milk for not more than 5 minutes. Add honey, a bit of vegetable salt, and serve with top of the milk and honeyed or stewed fruit. A handful of chopped nuts is a delicious addition.

SOYA-BEAN SPROUTS

'Soya beans, like mung beans, can be sprouted in a flower pot, a sink strainer, or any container that has holes in it for drainage and can be covered. Be sure the container is large enough, for the beans swell to at least six times their original bulk as they sprout. Soak overnight, and the next morning put the beans in the container, cover, and leave in a warm place. Flood with lukewarm water at least four or five times each day during the sprouting period. In 4 to 6 days the sprouts will be 2 to 3 inches long. Then they should be kept in a cool place, just as any fresh vegetable.

'Bean sprouts are a good addition to raw salads or to omelets, soufflé, meat stew, or fricassee. The sprouts are very tender and to hold their crispness should not be added to hot mixtures until a few minutes before serving. They are also often used with soya bean

curd and vegetables in chop suey.'

-U.S. Department of Agriculture, Bul. 166.

SOYA-BEAN MILK

This food is used by millions of Orientals. When milk disagrees, soya-bean milk often makes an excellent substitute. Soya-bean milk can be made at home as follows. Soak I cup of large soya-beans for 24–48 hours; then grind them through a meat chopper, or put them in a fletcherizer until very fine. Add 5–6 cups of warm water and boil for about 15 minutes. Strain through fine strainer; add a pinch of vegetable salt and I tablespoonful honey. This milk can be used exactly the same as cow's milk.

HOW TO MAKE VEGETABLE JUICES

Freshly extracted juice from young vegetables is concentrated goodness rich in vitamins and minerals. It is true that the body can

derive the necessary vitamins and minerals from the whole vegetable, but a vitamin and mineral deficiency can be made up much more quickly by drinking the fresh juices. People with weakened digestion who cannot stand the irritating fibres of vegetables are often placed on bland diets. Of late, dietitians and physicians have successfully added fresh vegetable juices to such bland diets, making up for their vitamin and mineral deficiency.

Children who 'hate' vegetables usually respond to a tempting glass of fresh vegetable juice. People on reducing diets of necessity have to use restraint. Drinking a glass of fresh vegetable juice before meals helps to reduce the appetite without harmful results. Vegetable juices are a boon to older people who have lost the ability to chew, and last, but not least, fresh vegetable juices taste good and are

easy to take.

In my kitchen and in the homes of thousands of my students there is a special gadget which extracts juices from all sorts of vegetables. These veritable 'health mines' will soon be in every modern home.

In preparing vegetables for juicing, select fresh vegetables; the younger the better. Deep orange-coloured carrots and dark green leaves, still fresh and crisp, make the best juices. Young vegetables need not be peeled. Simply cut them up in small enough pieces to fit into an electric or hand-juicing machine. Drink the juice fresh as it comes from the extractor. Should you wish to store some extra juice, be sure to place it in a refrigerator.

Practically all vegetables make good juices, but some taste better than others. It is helpful to make pleasant tasty combinations or

vegetable juice cocktails.

Carrot juice has been the most popular vegetable juice in America, and celery juice is next in popularity. The juices of spinach, parsley, and watercress are not as tasty, and they are therefore combined with carrot or a bit of citrus fruit juice. Here are a few basic recipes for vegetable juices.

Carrot juice. Scrub carrots until their skin glows; cut into pieces to fit juice extractor. This golden juice should be drunk immediately or put in a refrigerator. By adding a few drops of orange juice, carrot juice will keep its golden colour for about 10 hours.

Celery juice. Wash celery and put through juice extractor. Do not use the leaves, as they make the juice too bitter. Fresh celery juice chilled makes a delicious appetizer, and a few drops of lemon juice add flavour.

Beet juice. Cut up tender young beets and put them through the juice extractor. This makes a ruby-red vegetable 'wine.' To make beet juice more palatable and to help it to keep its ruby colour, it should be blended at once with canned pineapple juice in equal amounts.

Cucumber juice. Cut unpeeled cucumbers into strips and put through the juice extractor. This light green juice can be mixed with any other fruit or vegetable juice. A good combination is equal amounts of cucumber juice and grapefruit juice.

Complexion cocktail. Cut up equal amounts of celery, carrots, and parsley, and put through juice extractor. Drink the first glass at once and put the rest in a refrigerator. To prevent this cocktail

from darkening, add a few drops of citrus fruit juice.

Victory cocktail. Put equal amounts of celery, carrots, and apples through the juicing machine. This is a very popular and delicious drink and can be served chilled as an appetizer.

Spring cocktail. Put equal amounts of young tender rhubarb and fresh strawberries through juice extractor; flavour this rose-coloured juice with honey. One glass a day is sufficient, taken preferably in the morning.

Vitamin-A cocktail. Put equal amounts of celery, parsley, and turnip tops through the juice extractor. For additional flavour add one or two carrots and a few drops of lemon juice.

Vitamin-C cocktail. Put equal amounts of fresh green pepper and celery through juice extractor. To increase vitamin C content add a teaspoonful fresh lemon juice to each cocktail.

There is no limit to what you can do with fresh vegetable juices. Besides many different kinds of cocktails, delicious soups can be made by simply adding hot milk and a bit of vegetable salt to the different vegetable juices.

FLETCHERIZED DRINKS

If you have an electric fletcherizer or blender, you can make many interesting 'building' drinks. Protein foods such as nuts, cheese, and egg yolks, when mixed with fruit juices, are an excellent and nutritious combination. Simply put liquid into the glass container and add the rest of the ingredients. It is a matter of only a few moments. Even the hardest of nut meats can be converted into delicious 'nut milk.' Those with weak digestion are especially benefited by these fletcherized drinks. Here are some interesting combinations:

Almond milk. I cup orange juice; handful of blanched unsalted almonds.

Walnut milk. I cup unsweetened grapefruit juice; handful of unsalted walnuts.

Filbert milk. I cup unsweetened pineapple juice; handful of unsalted filberts.

Cashew milk. I cup orange juice; handful of unsalted cashews.

Brazil-nut milk. 1 cup unsweetened grapefruit juice; 4 or 5 unsalted Brazil nuts.

Coconut milk. I cup unsweetened pineapple juice; handful fresh or canned coconut. This tastes best strained.

Pep cocktails. I cup orange juice; I fresh egg yolk.

Or I cup unsweetened grapefruit juice; I fresh egg yolk. Or I cup unsweetened pineapple juice; I fresh egg yolk.

Or I cup warm Hauser Broth; I fresh egg yolk.

Calcium cocktails. 1 cup unsweetened pineapple juice; 1 tablespoonful fresh cottage cheese.

Or I cup orange juice; I tablespoonful cream cheese.

Vege-nut milk. I cup unsweetened fruit juice (your choice); I heaping teaspoonful whole soya flour; a few almonds, or any of the other nuts. A teaspoonful of honey may be used for additional flavour.

SAUCES AND RELISHES

A sauce can be made a vehicle for all sorts of delicious herbs and seasonings. The number of these vehicles, or bases, is really very simple; the variety lies in the seasonings. The base can be butter or cream; or milk, broth, or fruit juice either thickened or unthickened. The butter sauces and cream sauces—that is, sauces made of pure cream, sweet or sour—are the simplest, and hence the best. Of the thickened sauces, Hollandaise is the most delicate because it is thickened with egg. The flour-thickened sauces, most often used—and abused—in this country, belong to three families: light sauce, dark sauce, and mixed sauce. They will, I hope, have little or no place in your cuisine, especially if you have to watch your waistline. But in case you have to stretch a leftover or give body to a croquette, you will find them tucked away in the middle of this chapter. Even these sauces we make with whole-wheat flour

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and mineral-rich broths or milk. If you happen to be in the money you can always thicken your sauces with a few egg yolks. They give added protein value and a delicious flavour.

Herbs in Sauces: Sauces is another of the places where herbs will make all the difference. Herbs which go with vegetables can be added to your vegetable sauce; those which go with meat to your meat sauce; and so forth. With a small pinch of the right herbs you can change an ordinary dish to a festive one. Herbs have been given to us by good old Mother Nature to prevent monotony—the saddest thing that can befall any household.

WHAT SAUCES TO USE

Sauces for Meat and Poultry: Gravy is the first and simplest sauce for meat and poultry—preferably dish or platter gravy, which is the pure juice from the meat. For roasts and broiled meats, dish gravy is the best of all possible sauces. It can be made utterly delicious by putting carrots and onions around the roast. Onions especially have a natural oil which helps to thicken your gravy without the addition of flour. Braised meats and stews usually have thickening added to give body.

When there isn't much gravy, or you want a change, the butter and cream sauces are best.

Sauces for Vegetables: Vegetables buried in a pasty concoction cuphemistically known as 'white sauce' belong to the horse-and-buggy days. A good white sauce has its place in cookery, as a base for soufflés; but don't let it mask the rare and delicate flavour of good vegetables. For them the simplest dressings are the best. Here are three ways of dressing vegetables:

- 1. Simply add butter or margarine as you serve.
- 2. Add sweet cream after you turn out the flame but before you dish up the vegetable. Or make it sour cream if you like an exotic 'foreign touch,' especially on greens.
- 3. When you want a 'dressier' sauce, serve Drawn Butter or Hollandaise Sauce. Hollandaise is particularly good with the cabbage family—broccoli, cauliflower, Brussels sprouts. Try it also on string beans, asparagus, etc.

Sauces for Fish: Since fish does not provide its own gravy, it seems to cry out for a sauce. Butter and lemon juice, cream and cucumber are combinations appropriate for fish. If you use a thickened sauce, substitute fish stock for half the milk.

BUTTER SAUCES

More than any other one word, 'butter' suggests richness and good eating. Yet on the other hand our plainest eating is 'bread and butter.' And so for dressing vegetables and meats the simplest sauce, the one which will enhance the flavour of the dish without masking it, is a butter sauce—which means simply melted or creamed butter with herbs and seasonings added. Drawn Butter is the basic melted-butter sauce, Maître d'Hôtel Butter the basic creamed butter sauce. Other sauces can be made with either; it is a matter of choice except perhaps with Horse-Radish Butter, which is best with the butter creamed, not melted. If you have to use margarine, grin and bear it.

MAÎTRE D'HÔTEL BUTTER

teaspoonful vegetable salt tablespoonfuls finely chopped parsley

tablespoonfuls lemon juice

Cream the butter. Add the parsley, then gradually blend in the lemon juice, salt, and paprika.

PARSLEY BUTTER

To $\frac{1}{3}$ cup of creamed butter, add 2 tablespoonfuls of finely minced parsley.

LEMON-CHIVE BUTTER

To $\frac{1}{3}$ cup of creamed butter, add 2 tablespoonfuls of lemon juice and 2 of finely chopped chives.

WATERCRESS BUTTER

To $\frac{1}{3}$ cup of creamed butter, add 2 tablespoonfuls of finely chopped watercress.

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VITAMIN-C BUTTER

To $\frac{1}{3}$ cup of creamed butter, add 2 tablespoonfuls of finely chopped bean sprouts.

MINT BUTTER

To $\frac{1}{3}$ cup of creamed butter, add 2 tablespoonfuls of finely chopped mint leaves.

LEMON BUTTER

To \frac{1}{3} cup of creamed butter, add 2 tablespoonfuls of lemon juice.

HORSE-RADISH BUTTER

To ½ cup of creamed butter, add 2 tablespoonfuls of horse-radish.

MUSTARD BUTTER

To 1/3 cup of creamed butter, add 1/1/2 tablespoonfuls of prepared mustard.

BUTTER SAUCES FOR SANDWICHES

These butters make excellent spreads for thin whole-wheat or rye-bread sandwiches.

GOOD HERB BUTTER

† pound fresh butter 1 tablespoonful finely chopped tablespoonful finely chopped water-cress † teaspoonful vegetable salt

I tablespoonful finely chopped parsley

Cream the butter at room temperature and blend in the different greens, a tablespoonful at a time. When well mixed, place in refrigerator and let harden. Delicious when a lump is served on steaks, chops, or on flat-tasting vegetables and broths.

DRAWN BUTTER

tablespoonful chopped parsley

I tablespoonful lemon juice
Pinch of vegetable salt

Melt the butter and add the other ingredients. Letting the butter get brown—not black—gives an unbelievably delicious flavour.

CREAM SAUCES FOR FISH

The butter sauces are as good for fish as for meats and vegetables. But for variety serve a whipped-cream sauce occasionally with fish and shellfish. Whip ½ cup of heavy cream and fold in any one of the following combinations:

I. \(\frac{3}{4}\) cup chopped and drained cucumber, 2 tablespoonfuls lemon

juice, ½ teaspoonful vegetable salt, dash of paprika.

2. 3 tablespoonfuls horse-radish, I teaspoonful lemon juice, ½ teaspoonful vegetable salt. Thick sour cream can be used instead of whipped cream.

3. I tablespoonfuls prepared mustard, 2 teaspoonfuls horse-

radish. This is also good with cold cuts.

HOLLANDAISE SAUCE

2 egg yolks \frac{1}{3} cup boiling water or Hauser

1 tablespoonful lemon juice Broth

2 cup unsalted butter Pinch of vegetable salt

4 teaspoonful garlic powder

Beat the egg yolks slightly in the top of a double boiler. Have the water in the bottom of the boiler hot but not boiling. Add the lemon juice and about half the butter to the egg yolks and place over the hot water. Stir until the butter is melted. Gradually add the rest of the butter, stirring continuously, then the boiling water or broth, stirring slowly. Cook until thick.

Hollandaise sauce will curdle if it is cooked at too high a temperature, if it cooks too long, or if it stands too long before serving. If you cannot make it at the last minute, it is better to let it cool, then reheat it for 5 minutes over hot, not boiling, water.

If the sauce curdles add very slowly, beating with a rotary egg

beater, I tablespoonful of boiling water or heavy cream.

NEVER-FAIL HOLLANDAISE FOR SKINNIES

2 egg yolks ½ cup melted butter
½ teaspoonful vegetable salt I tablespoonful lemon juice
Dash of paprika

Beat the egg yolks until thick. Beat in the salt and paprika and 3 tablespoonfuls of the melted butter a drop at a time. Then beat in the rest of the butter alternately with the lemon juice.

LIGHT SAUCE

A smooth creamy texture is the end to be desired in all flourthickened sauces. And the way to get it is by thoroughly blending the flour and fat before adding the liquid, then adding the liquid

gradually with unremitting stirring.

There are various ways of taking precautions, each of them favourites with some cooks. Take your pick or try them all until you find the one you like. To lessen the risk of lumps, some say take the pan off the heat while adding the liquid. Others say have the liquid hot before adding. Another school recommends an asbestos mat under the saucepan or using the top of a double boiler. This lengthens the process considerably, however, and there is no reason why a smooth sauce can't be made over direct heat—low, of course—if you are faithful to your stirring.

The ingredients listed below are those for a thin sauce. This is the consistency sometimes used for cream soups and for more elaborate sauces. For creamed or scalloped dishes or as a base for savoury sauces, use medium light sauce. Thick light sauce is used only for binding the ingredients of croquettes and

cutlets.

The light sauce itself is only the beginning. Before you use it to dress a dish, add the ingredients listed under Variations. However, always remember to make all sauces tasty with as little thickening as possible.

2 tablespoonfuls butter \quad \{\frac{1}{8}\ teaspoonful paprika}\)
1 tablespoonful whole-wheat flour \quad \teaspoonful vegetable salt

Melt the butter in a saucepan over low heat. Add the flour, salt, and paprika and stir until thoroughly blended. Gradually stir in the milk and cook, stirring constantly, until thick and smooth. Let the sauce boil before you take it off the flame or it will taste of raw flour.

Medium Light Sauce: With 1 cup of milk use 2 tablespoonfuls of

butter and 2 tablespoonfuls of flour.

Thick Light Sauce: With I cup of milk use 4 tablespoonfuls of butter and 4 tablespoonfuls of flour. This thick sauce should never be used unless you look like a starved Indian.

VARIATIONS OF LIGHT SAUCE

Cream Sauce: Use I cup of light cream instead of milk.

Sour-Cream Sauce: Use I cup of thick sour cream instead of milk; add 1½ tablespoonfuls of lemon juice when done.

Yoghourt Sauce: Use I cup of thick yoghourt and I teaspoonful of

lemon juice.

Cheese Sauce: Just before removing from the flame, add I cup of grated cheese. Season with ½ teaspoonful of soya sauce and ½ teaspoonful of prepared mustard. Good with eggs, macaroni, and rice.

Devilled Sauce: Add ½ teaspoonful of grated onion to cheese sauce.

Brown Almond Sauce: Brown & cup of chopped blanched almonds in the butter before adding the flour. Another good fish sauce.

Mushroom Sauce: Sauté I cup of sliced mushrooms and I teaspoonful of grated onion in the butter before adding the flour. Cook the mushroom stems in water for 10 minutes and use $\frac{1}{2}$ cup of the liquor for $\frac{1}{2}$ cup of milk.

Egg Sauce: After the sauce is done, add 2 chopped hard-cooked eggs, ½ teaspoonful of soya sauce, 1 tablespoonful of minced parsley, and ½ teaspoonful of onion juice. Serve with fish.

DARK SAUCE

Dark sauce is made by the same method as light sauce. The difference is that the butter is browned before the liquid is added, and the liquid is always Hauser Broth or left-over vegetable water.

2 tablespoonfuls butter I tablespoonful whole-wheat flour I tablespoonful grated onion I tablespoonful grated carrot

1 tablespoonful grated carrot Small piece of bay leaf Sprig of thyme or parsley Vegetable salt to taste Paprika I cup Hauser Broth

Melt the butter in a saucepan and add the vegetables and herbs. Cook over low heat until the butter is browned. Stir in the flour until well blended. Add the broth, stirring constantly, and cook until the mixture thickens and boils. Season with salt and paprika.

VARIATIONS OF DARK SAUCE

Dark sauce is primarily a meat sauce, and various additions to it will suggest themselves, according to the kind of meat you are dressing. Here are a few:

Onion Sauce: Use 3 tablespoonfuls of butter instead of 2; substitute 1 cup of sliced onions for grated onion. Remove the bay leaf and thyme, but do not strain this sauce. Serve with braised or leftover meats.

Dill Sauce: To the hot sauce add I tablespoonful of lemon juice and chopped dill to taste. Serve with lamb or veal. A great favourite with Scandinavians.

Olive Sauce: To the hot strained sauce add & cup of chopped black olives. Serve with tongue.

Orange Sauce: Add I tablespoonful of grated orange rind with the onion and carrot. Substitute & cup of orange juice for half the broth. Serve with roast duck or goose.

Jelly Sauce: To the hot sauce add 1 cup of current jelly. Stir until the jelly dissolves and add lemon juice to taste or I tablespoonful

of sherry. Good for Sunday-night cold cuts.

Chestnut Sauce: To the strained sauce add I cup of shelled cooked

chestnuts, coarsely chopped.

Raisin Sauce: To the broth add 2 tablespoonfuls of coarse brown sugar, I tablespoonful of lemon juice, and 1 cup of seedless raisins after the sauce begins to thicken. Remove the bay leaf and thyme but do not strain.

MIXED SAUCE

This is a light sauce made with chicken or veal stock in place of milk. It is served with croquettes, fish, or poultry. Use fish stock in making it to serve with fish.

2 tablespoonfuls butter 2 tablespoonfuls whole-wheat flour Grating of nutmeg } teaspoonful vegetable salt

Dash of paprika I cup seasoned chicken or veal stock

Melt the butter over low heat and combine as described for Light Sauce.

VARIATIONS OF MIXED SAUCE

Sauce Allemande: When the sauce is thick, stir a little of it into I well-beaten egg yolk. Stir the mixture into the sauce and cook over very low heat for 2 minutes. After removing from the heat add I teaspoonful of lemon juice and 2 tablespoonfuls of cream. To serve with fish, use sour cream instead of sweet.

Sauce Supreme: Substitute ! cup of mushroom stock for meat stock. Slightly beat an egg yolk and add to it ½ cup of heavy cream. When the sauce has thickened, stir in the egg and cream and heat over hot water.

DELICIOUS TARTAR SAUCE

8 black olives

I hard-cooked egg, chopped fine
bunch watercress, chopped fine
tidil pickle, chopped fine
tablespoonfuls finely chopped 2 cups mayonnaise
parsley

Mix the chopped ingredients into the mayonnaise. This sauce is delicious with shrimps, oysters, scallops, or any breaded fish. In case your conscience troubles you, use chopped cucumber in place of the dill pickle.

MUSTARD SAUCE

½ cup coarse brown sugar
½ cup nild prepared mustard
½ cup hot Hauser Broth
¾ tablespoonful whole-wheat flour
3 egg yolks, slightly beaten

Mix all the ingredients and cook them in the top of a double boiler. Serve this sauce cold. It's delicious with cold cuts.

SWEDISH DILL SAUCE

3 tablespoonfuls butter
3 tablespoonfuls coarse brown
3 tablespoonfuls whole-wheat flour
2½ cups hot Hauser Broth
½ cup lemon juice
4 tablespoonfuls finely chopped dill
½ tablespoonful vegetable salt
2 egg yolks, well beaten

Melt the butter in a saucepan or the top of a double boiler. Blend in the flour until smooth. Slowly add the hot broth and cook until

thick and smooth. Stir in the lemon juice, sugar, dill, and salt. Just before serving, beat in the egg yolks. Don't let the sauce boil after the eggs have been added.

Very delicious with lamb.

MY FAVOURITE CURRY SAUCE

2 tablespoonfuls fresh butter 2 egg yolks 2 teaspoonfuls curry powder 🗦 pint cream 1/2 teaspoonful vegetable salt 🖟 cup Hauser Broth or gravy

Melt the butter, but do not brown it, in a skillet. Blend in the curry powder until smooth. Add the broth or gravy and let simmer a few minutes. Beat the egg yolks and mix them with the cream. Reduce the heat so the egg and cream mixture will not boil and pour it into the skillet. Don't let the sauce boil again after the eggs have been added.

This is a basic curry sauce given me years ago by my brother-inlaw, Dr. Gordon Gysin, who lived in India. It has been a favourite in our family for years. You will be amazed how many different curry dishes, every one delicious, you can prepare with this sauce, and all on a moment's notice.

Chicken Curry: Cook chicken in the usual manner; stew or sauté. When tender and ready to serve, pour curry sauce over the chicken and simmer for not more than 5 minutes.

Lamb Curry: Cook young lamb in the usual manner. When tender

pour over curry sauce and let simmer for 5 minutes.

Sea-Food Curry: Put shrimps, crab meat, or lobster into the hot curry sauce before the egg yolk and cream are added. When the fish is thoroughly heated, pour in the egg yolk and cream and simmer for 3 more minutes.

Egg Curry: Take 6 hard-cooked fresh eggs. Cut them into quarters. Drop these into the hot curry sauce until thoroughly heated.

Sprinkle with a bit of paprika and serve hot.

Leftover Meat Curry: Any leftover meat can be made more delicious by heating it and pouring hot curry sauce over it.

Lentil Curry: Cook large lentils in vegetable broth. When tender pour hot curry sauce over them and serve at once.

All curries taste best when served with dry cooked rice. Curry, salad bowl, and broiled grapefruit make a good meal.

SAUCES FOR MEAT SUBSTITUTES

FINES HERBES SAUCE

 1½ teaspoonfuls butter
 ½ cup Hauser Broth

 2 teaspoonfuls grated onion
 ½ tablespoonful powdered sage

 Sliver of garlic
 I tablespoonful vegetable salt

 I tablespoonful chopped parsley
 I bay leaf

I tablespoonful whole-wheat flour I teaspoonful lemon juice

2 cups tomato juice

Melt the butter in a saucepan. Add the onion, garlic, and parsley, and sauté until golden brown. Blend in the flour and cook for a moment, then add the sage, bay leaf, and vegetable salt. Gradually add the tomato juice and broth and cook over low heat, stirring constantly, until the mixture thickens. As soon as it reaches a boil, remove from the fire and add the salt and lemon juice. This is the favourite sauce in one of Beverly Hills' most exclusive restaurants. Preparation: 5-10 minutes.

MUSHROOM SAUCE

I tablespoonful butter

½ green pepper, minced

5 mushrooms, minced

1 onion, minced

½ clove garlic, minced

Melt the butter in a heavy skillet. Add the minced vegetables and sauté. When they are soft, add the tomato soup, vegetable salt, and Hauser Broth. Let come to a boil.

TOMATO SAUCE

2 tablespoonfuls butter I cup Hauser Broth
I clove garlic, minced I teaspoonful celery seed

1½ tablespoonfuls whole-wheat flour I teaspoonful vegetable salt
1½ cups tomato soup

Melt the butter in a heavy skillet. Add the minced garlic and brown lightly. Stir in the flour and blend thoroughly. Gradually add the tomato soup and Hauser Broth and stir constantly until the mixture thickens and boils for 5 minutes. Add the seasonings.

SPANISH SAUCE

2 tablespoonfuls butter 2 cups canned tomatoes
1 large onion, chopped 1 teaspoonful vegetable salt
2 clove garlic, chopped 2 cup chopped stuffed olives
1 green pepper, chopped

Melt the butter in a skillet. Sauté the onion, pepper, and garlic until browned. Add the tomatoes and vegetable salt and stew about 20 minutes.

SYRUPS AND DESSERT SAUCES

LEMON-HONEY SAUCE

½ cup honey ½ teaspoonful grated lemon rind ½ cup water

Mix all ingredients and bring to the boiling point. Boil gently a few minutes to blend the flavours. Chill. Use with fresh fruit, alone or in combination. Or as a syrup for stewing fruits, in which case adjust the amount of lemon peel to taste. Orange peel may be added if desired.

Preparation: 1 or 2 minutes.

I cup.

DEVONSHIRE CREAM SAUCE

I cup cream Pinch of vegetable salt

1 egg yolk, well beaten

Scald the cream in the top of a double boiler. Pour slowly over the beaten egg yolk, stirring constantly. Return to the double boiler and cook until thick, stirring occasionally. Serve hot or cold with puddings. It is especially good with a tart fruit dessert.

Preparation: 5-10 minutes.

I cup.

HARD SAUCE

† cup fresh butter
2 cup coarse brown sugar
1 teaspoonful vanilla or lenon extract, or 2 tablespoonfuls brandy
1 egg yolk, beaten
or sherry

Cream the butter until soft, gradually add the sugar, and cream together until light and fluffy. Beat in the egg yolk and flavouring,

turn into the dish in which you will serve it, and set in the refrigerator to harden.

For a fluffy hard sauce, beat in ½ cup of heavy cream, whipped, after you add the flavouring, and omit the egg yolk. For a fruit hard sauce, leave out the egg yolk and flavouring and beat in instead ½ cup of crushed strawberries, raspberries, or cranberry sauce.

HONEY BUTTER

Blend $\frac{1}{2}$ cup of honey and I teaspoonful lemon juice into $\frac{2}{3}$ cup fresh butter. Keep on ice. Delicious for pancakes or puddings.

STRAWBERRY SYRUP

 $\frac{1}{4}$ cup water $\frac{1}{2}$ cup cut-up strawberries $\frac{1}{3}$ cup honey

Scald the water and honey in the top of a double boiler. Stir in the strawberries and let cool. Other fruit sauces can be made in the same way.

CARAMEL SAUCE

1 tablespoonful butter \$\frac{1}{4}\$ cup boiling water \$\frac{1}{2}\$ cup coarse brown sugar

Melt the butter in a heavy skillet and add the sugar. Cook over moderate heat until the sugar is melted. Reduce the heat and continue cooking, stirring until the mixture boils and gives off smoky fumes. Then stir in the boiling water by the spoonful. If lumps form, return to the heat and stir until melted. Use hot or cold.

This sauce may be thinned with more water if desired.

Preparation: 8-10 minutes.

½ cup.

MAPLE CREAM SAUCE

½ cup maple syrup

I egg yolk

Pinch of vegetable salt

½ cup heavy cream

Heat the syrup in the top of a double boiler. Beat the egg yolk well, slowly stir in the hot syrup, then return to the double boiler. Cook over boiling water, stirring constantly, until the mixture thickens—about 6 minutes. Cool. Whip the cream and fold into the sauce with the salt.

The grated rind of lemon may be added to taste. Or chill and mix with I cup of any diced fruit or berries just before serving.

Delicious as a sauce for brown rice.

SHERRY WITH DESSERTS

Use ½ cup of sherry to each cup of caramel, custard, or hard sauce. Or pour it over the dessert by itself, about \(\frac{1}{4} \) cup per serving. In baked grapefruit, cookies, fruit cake, and custards use 2 tablespoonfuls of sherry per cup of other liquid ingredients.

RELISHES AND GARNISHES

Americans, even more than other peoples, eat with their eyes. Half the pleasure in a dish is its appearance, and garnishes are the decorations which put the finishing touches on appearance. But the simpler the garnish and the more functional, as we say nowadays, the better. Radish roses and lemon-rind baskets tied with parsley ribbons belong with antimacassars we have better things to do with our time. Fresh, crisp sprigs of parsley—in their natural shapes!—watercress, tender tips of celery, carrot sticks, and raw cauliflowerets are the standbys among garnishes. For fish, of course, there is the wedge of lemon-sometimes thin slices of tomato. The main thing is to give a colour accent to the dish.

Relishes serve a double purpose—they add piquancy to the flavour of the dish they accompany and serve also as a garnish if they are full of colour. Cranberry and beet relishes always strike a vivid note. In the paler cucumber, onion, or apple relishes we use pimento or red or green sweet peppers for colour accent.

RAW CRANBERRY RELISH

2 cups cranberries I golden orange I red-skinned apple & cup honey (or to taste)

Remove the peel from one-third of the orange and the core from the apple. Cut the fruit into chunks the right size for grinding. With the medium knife on the food grinder put the cranberries and the orange and apple through the grinder alternately-first a few

berries, then some orange and apple. Mix honey to taste with the ground fruit and let stand to blend the flavours. It should stand at least overnight. A delicious relish which keeps well in the refrigerator.

Use as a garnish on fruit cup or on fruit or vegetable salad; or mix with mayonnaise for a dressing with a raw cabbage or spinach

salad.

This relish may also be used as a dessert, either topped with whipped cream or mixed with whipped cream and garnished with chopped nuts.

HORSE-RADISH RELISH

Combine equal parts of currant jelly and freshly grated horseradish. Delicious for Sunday-night cold cuts.

BEET AND HORSE-RADISH RELISH

1 cup chopped cooked beets \$\frac{1}{2}\$ cup coarse brown sugar \$\frac{1}{2}\$ cup grated horse-radish \$3\$ tablespoonfuls lemon juice

Combine the ingredients, cover, and let stand overnight. Serve with meat and fish.

RAW CRANBERRY RELISHES

These are especially good with poultry. They should be allowed to stand at least several hours before serving—preferably longer. A day or two in the refrigerator blends and mellows the flavours.

CRANBERRY AND HORSE-RADISH RELISH

I pound cranberries \frac{1}{2} cup coarse brown sugar

I teaspoonful lemon juice

Put the cranberries through the medium knife of the food grinder. Add the other ingredients and mix thoroughly.

CRANBERRY AND PINEAPPLE RELISH

Put I pound of cranberries through the medium knife of the food grinder. Add I cup drained crushed pineapple, honey to taste, and I teaspoonful lemon juice.

CUCUMBER RELISH

I	medium	cucumb	er	
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2 tablespoonfuls chopped pimento

I teaspoonful grated onion

½ teaspoonful vegetable salt

Dash of paprika

2 tablespoonfuls mayonnaise

2 tablespoonfuls lemon juice

Grate the cucumber with a coarse grater. Wrap in a piece of cheesecloth and wring dry. Put in a bowl and add the other ingredients. Chill thoroughly and drain before serving. Serve with fish or yeal.

RAW-APPLE RELISH

3 tart apples
I sweet green pepper
I sweet red pepper
I small onion

2 stalks celery
1½ teaspoonfuls vegetable salt
½ cup coarse brown sugar
⅓ cup lemon juice

Chop the apples, peppers, onions, and celery. Add the remaining ingredients and mix thoroughly. Cover and chill thoroughly. Serve with poultry.

ONION RELISH

½ cup lemon juice I tablespoonful coarse brown sugar I cup thinly sliced onion
I pimento cut in strips

3 cup chopped fresh mint leaves

Put the lemon juice and sugar in a saucepan. Add the mint leaves and heat gently for half an hour. Add the onions and pimento-if necessary more lemon juice to cover the onions. Chill until the onions are crisp before serving.

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